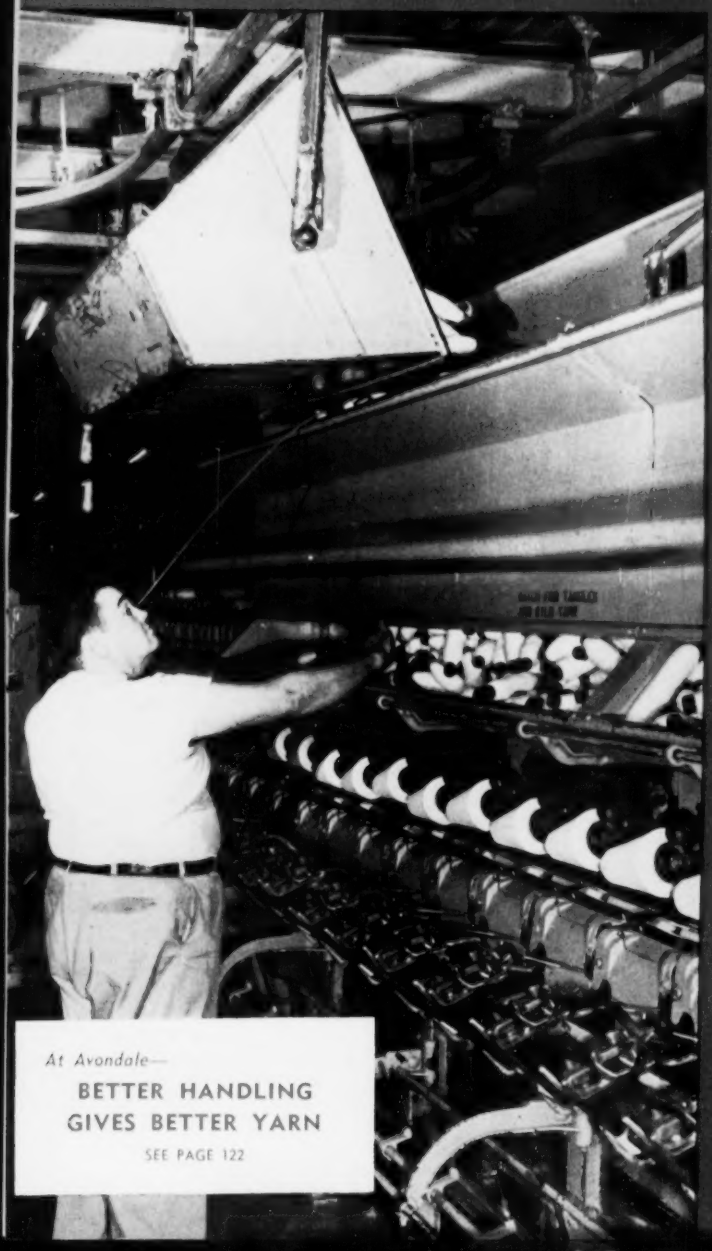
# TEXTILE WORLD

*A McGraw-Hill Publication* ..... JUNE • 1952



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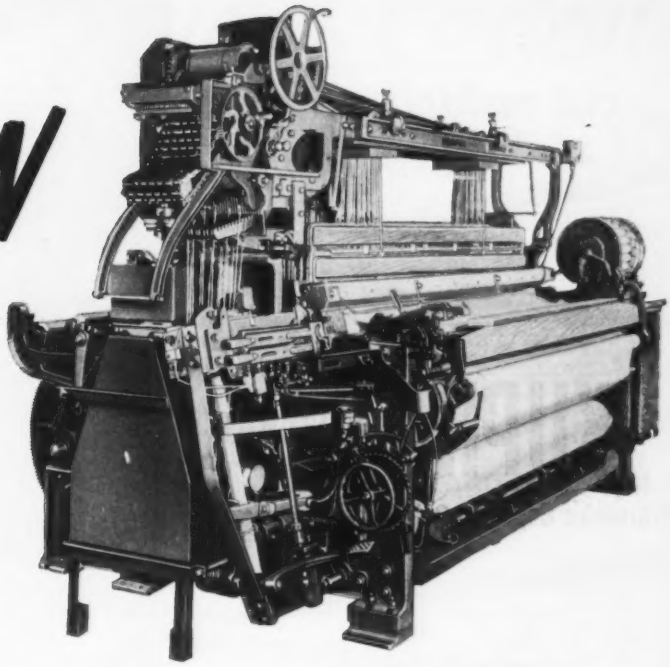

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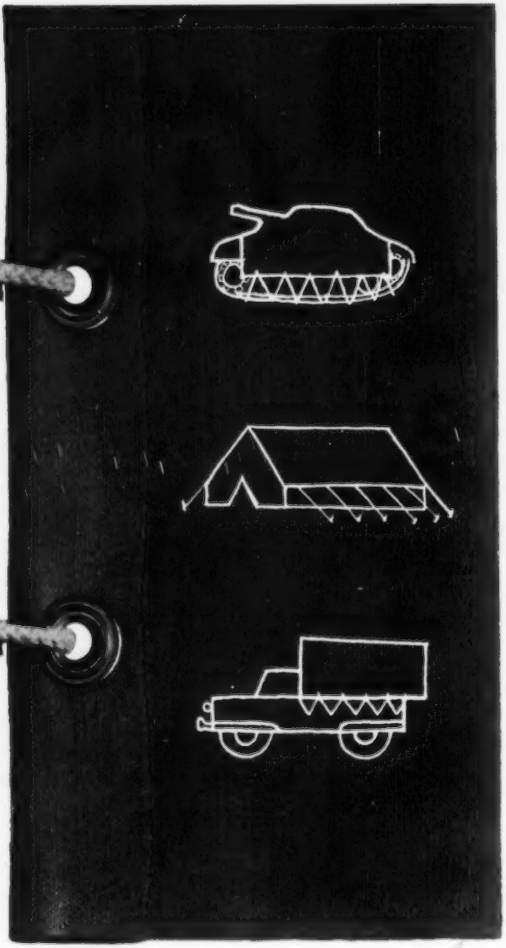

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# THE Long-Range VIEW

## New England Has Another Committee

**Another Committee** on the New England Textile Industry has been appointed. This time the governors of six states had a hand in it; and to head this one, they chose Prof. Seymour Harris, a Harvard economist.

In a recent interview reported by the Associated Press in Boston, Prof. Harris said, "New England is prepared to fight. Capital, labor, and government are alerted."

**Now those are fine fighting words,** surprising from an economist, and they gave us a ray of hope that at last something is going to be done. But after reading almost two full columns of newspaper print, we knew little more than that Prof. Harris said, "New England is prepared to fight."

Since an economist heads the committee, we assume that another "study of the New England textile situation" is going to be made. We suppose that somebody must know how many studies have already been made, but we lost count long ago. New England mill men must be thinking, "Lord, how long must we suffer these studies?"

**In the January issue on page 157** we published the highlights of another study on the New England textile situation—this one confined to Massachusetts—and on page 4 discussed that study. That was the now-famous Blanchard Report that Massachusetts politicians tried to smother because it condemned politicians and labor unions as well as mill managements.

From the sound of the AP interview with Prof. Harris, our guess is that the present committee will profit by the treatment the Blanchard Report received and will be wary of criticizing the politicians.

The Blanchard Report, made by a disinterested management consulting firm (and other studies before it), quite specifically gave these causes for the New England textile plight:

1. High labor costs (caused largely by low labor productivity)
2. Unsatisfactory labor relations in some plants
3. Attitude of state authorities
4. Trend to higher and higher taxes
5. No decision on third-shift women workers
6. Labor shortages in some areas in times of good business
7. Power and fuel costs
8. Costs of unemployment insurance, workmen's compensation, and fringe benefits.

**Discussions in the report** of these causes form an excellent blueprint for correcting the noncompetitive situation New England mills are in—if anyone were really interested in correcting it. The truth is that nobody except mills stands to benefit immediately by remedying the situation, and nobody is going to give up enough self-interest to correct it to any worth-while extent.

If you look down the list of eight causes just given, you will spot the agencies who must take definite action to change the New England situation. They are:

1. Labor must increase its productivity
2. Mills and workers must better their relations
3. Politicians must stop being an enemy of mills and actively cooperate with them
4. Power companies and fuel companies must also get competitive with the South.

**Nobody seriously expects** any of these four things to be accomplished. Prof. Harris's militant words had a fine ring to them, but he studiously avoided mentioning any steps being taken to bring about any of these things. If capital, labor, and government were indeed alerted, as he said, his committee would not be a committee headed by an economist to study the situation. It would be a committee composed of representatives from mills, labor, government, capital, power companies, fuel companies, and railroads—and their job would be to determine what concessions each would have to make to correct the destructive muddle mills now have to put up with.

We make no effort to whitewash mills. Certainly they are largely to blame for permitting their present plight to develop, but certainly also they had tremendous pressures brought on them by the government and the endless emergencies we've had during the last dozen or so years. But regardless of how the thing developed or who is to blame, the grim fact now is that something must be done or few mills will be able to continue in New England. Short-term subsidies, such as government favor in placing contracts, are no solution. Ranting at the South and trying to "fight" are not solutions.

**There are only two possible ways** to solve the dilemma: (1) force the South to meet New England conditions, or (2) bring New England conditions in line with the South. Short of another Civil War, there is no way to force the South. The only alternative, then, is to correct conditions in New England.

Committees, appointed by politicians and headed by economists, to "study the situation" will never correct New England's ills.

O. M. Thomas

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Mr. Lamarche continues, "The preparation of the warp at the loom is as follows: An end-and-end lease is picked and the old warp cut out. The new warp is put into the loom. The yarn is wound off just enough to have the tape two inches beyond the whip roll, and a wooden rod—made for that purpose—is tied over the yarn onto the whip roll.

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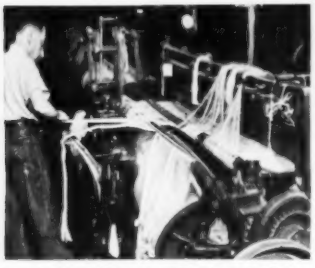

hundreds of hours of valuable time. And it makes the worker's job so much easier, less tiring.

Wamsutta Mills, leaders in the quality sheet and pillowcase field for over a century, are typical of the textile giants turning to "Scotch" Textile Tapes for new ways to save, new ways to do a job faster, better. In recent years, Wamsutta has taken the lead in injecting style into the Domestics business, and have recently introduced a new line of "Frosty-Tone" colored sheets for home use.

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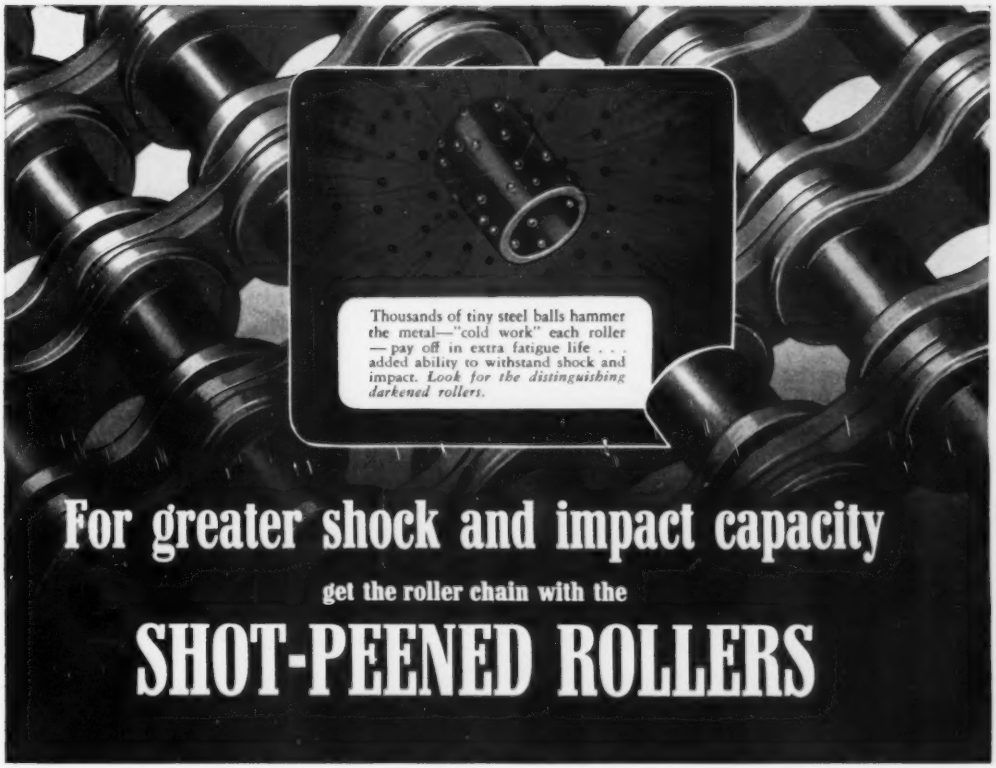
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# For greater shock and impact capacity

**get the roller chain with the**

# SHOT-PEENED ROLLERS

## . . . one of the extra-wear features you get with every LINK-BELT Roller Chain

JUST as shot-peened rollers give you extra fatigue life—so do Link-Belt's exclusive lock-type bushings multiply roller chain's capacity to withstand shock loading. And there are many other engineering extras that make Link-Belt Precision Steel Roller Chain your best buy for drive and conveying service.

You can choose from the complete range of Link-Belt Precision Steel Roller Chain. Ask your nearest Link-Belt office for full particulars on single or multiple widths, in ⅜" through 3" single pitch, or double pitch, 1" through 3".

## Lock-type Bushings increase ability to withstand severe operating conditions

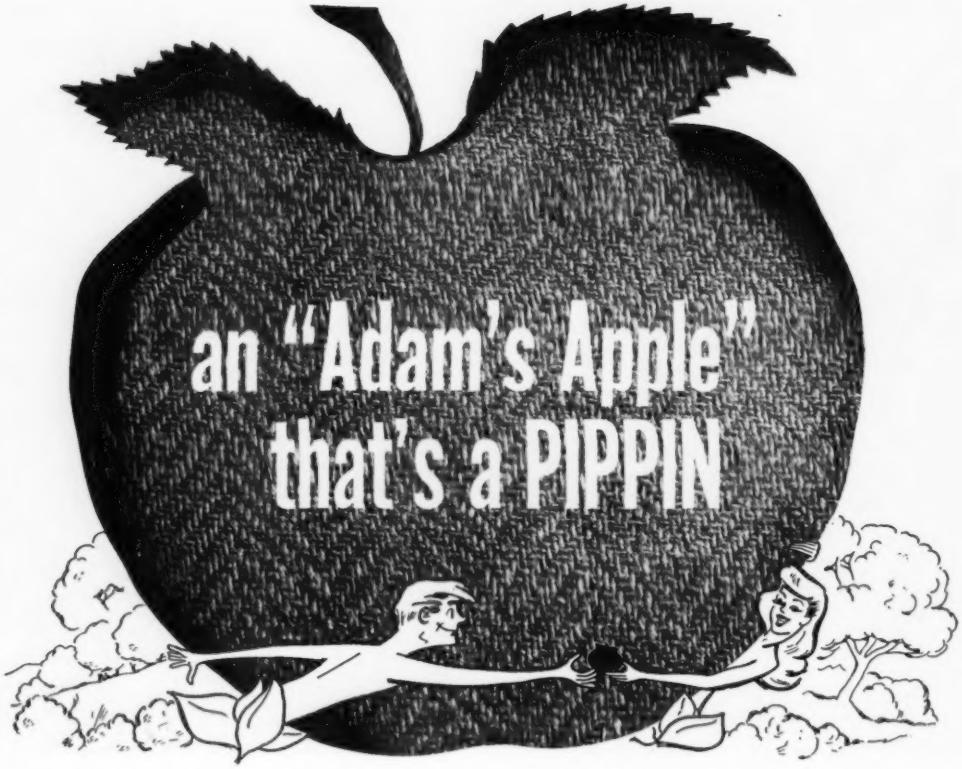
No partial bearing here — bushing fits securely

A special manufacturing process securely locks the inside sidebars on the bushing, preventing lateral movement of the sidebars and eliminating a common cause of stiff chains. This Link-Belt development is applied on roller chains through 1" pitch and double pitch roller chains through 2" pitch. 52,000

**LINK-BELT**

**PRECISION STEEL ROLLER CHAIN**

**LINK-BELT COMPANY:** Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, factory branch stores and distributors in principal cities.




You've probably heard them say in the industry: "Wetting agents are like Adam's apples, everybody's got one." And by "everybody," of course, they mean the makers of textile chemicals.

We're no exception; we have an "Adam's apple"—and it's a *pippin*. We offer it in the firm belief that it will not only benefit *you* but all the Adams and Eves who utilize your fabrics.

Our product is Nopco® 1086-A—an excellent wetting and rewetting agent, applicable in mild alkaline, mild acid, and neutral solutions.

We are confident 1086-A, one of the quality chemicals of our outstanding NOPCOWET* Series, will do a remarkably good job for you in numerous operations, and suggest you'll find it especially advantageous when employed as—

*(1) a wetting agent in starch and softener mixes;*

*(2) a penetrant in the application of enzyme desizing agents;*

*(3) an agent for imparting a high degree of absorbency to greige goods prior to dyeing (in fact, an all-purpose dyeing assistant);*

*(4) a wetting agent in the processing of wool for chlorine shrinkproof treatment.*

Nopco 1086-A sells competitively. In fact, it saves money for its users, since in virtually every application it proves more economical than comparable agents of this type.

If you are not using Nopco 1086-A already, consult with us. We'll gladly supply full information, and have our Technical Service Department work closely with you to achieve improvements . . . obtain goods with appeal that results in more satisfied customers and a bigger bite out of the market for you.

® Reg. U. S. Pat. Off.
* *Trademark*

NOPCO

**NOPCO CHEMICAL COMPANY**

**HARRISON, NEW JERSEY**

**Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.**



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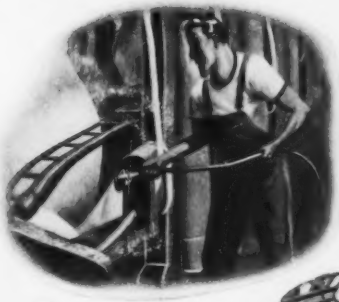
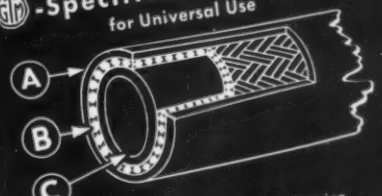


# Check Your Hose Needs–

*and answer most of them with*

GOODYEAR INDUSTRIAL RUBBER PRODUCTS

GTM-Specified ORTAC HOSE for Universal Use




**A** Cover resists weather, oil, sun, abrasion.

**B** Braids of high-strength rayon cord.

**C** Synthetic tube resists gasoline, oils, distillates and alkalies.

**ORTAC** (Oil Resistant Tube and Cover) hose is available in sizes from 3/16" to 1½" in long, continuous lengths. Factory application of couplings if desired.

# ORTAC

GOODYEAR'S ORTAC hose (Oil Resistant Tube and Cover) simplifies your hose-buying problems. For this *one construction* was designed by the G.T.M.—Goodyear Technical Man— to perform *many* assignments.

ORTAC will handle gasolines, fuel oils and distillates. It resists attack from alkalies, as well as the contaminants found in water. Excellent, too, for air and spray service. Its cover resists sun, weather and wear—ORTAC has a tube which will not flake, swell or discolor. Available in long, continuous lengths.

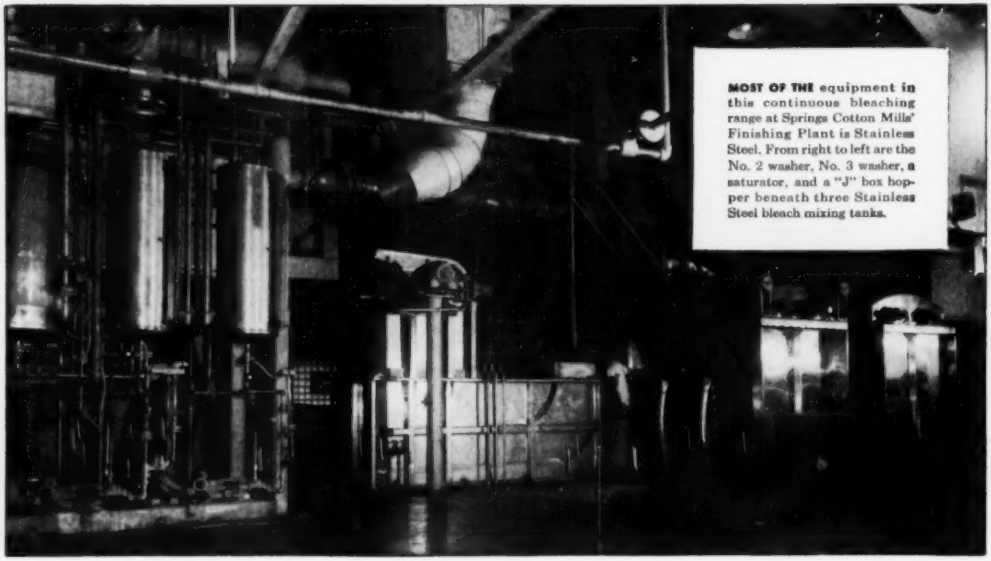
Ask your nearest distributor for full details on ORTAC—or write Goodyear, Akron 16, Ohio.

**LOOK FOR YOUR GOODYEAR INDUSTRIAL RUBBER PRODUCTS DISTRIBUTOR** in the yellow pages of your Telephone Directory under "Rubber Products" or "Rubber Goods." He handles Hose, Flat Belts, V-Belts, Molded Goods, Packing, Tank Lining, Rubber-Covered Rolls built to the world's highest standard of quality.

# GOODYEAR

**THE GREATEST NAME IN RUBBER**

Ortac—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio



**MOST OF THE** equipment in this continuous bleaching range at Springs Cotton Mills' Finishing Plant is Stainless Steel. From right to left are the No. 2 washer, No. 3 washer, a saturator, and a "J" box hopper beneath three Stainless Steel bleach mixing tanks.

# Stainless Steel is the major material

## IN ONE OF THE SOUTH'S NEWEST AND MOST MODERN FABRIC FINISHING PLANTS

**TWO OF THE FIVE** compartments in the open-width final washer are shown here. Fabric comes out of them with less than .1% caustic soda. Stainless Steel top rolls and squeeze rolls can be seen here. This equipment was built by Greenville Steel & Foundry Co., Greenville, S. C.

DESIGNED and built specifically for fabric finishing operations, this four-year-old plant of Springs Cotton Mills in Grace, S. C., is one of the newest and most modern operations of its type in the South. And a major part of its equipment is made of the most modern material available—Stainless Steel.

A Stainless Steel continuous bleaching range makes possible continuous high-speed processing of fabrics. Cloth travels through the mill at speeds of 175 to 265 yards per minute. In this range are five Rodney Hunt Tensitrol® Rope Washers which are 90% Stainless Steel, two Stainless caustic saturators and two Stainless "J" boxes made by the Morrison Machine Co., Paterson, N. J. Piping and bleach mixing tanks are also Stainless.

Mercerizing makes use of a high percentage of Stainless equipment, too. In the three mercerizers, wash boxes, roll and cloth straighteners are principally Stainless Steel. Dry cans on a 25-can dryer, made by the Morrison Machine Company, cooling cans and scrimp rolls are Stainless, too.

Final washing makes use of five Stainless wash boxes, with Stainless baffles and guide rolls.

Stainless Steel's smooth, durable surface, combined with its resistance to corrosion and freedom from product contamination, have made this steel the key material today in textile wet processing.

For the best results from Stainless Steel equipment, make sure that your equipment fabricator uses U·S·S Stainless Steel.

UNITED STATES STEEL COMPANY, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

# U·S·S STAINLESS STEEL

USS

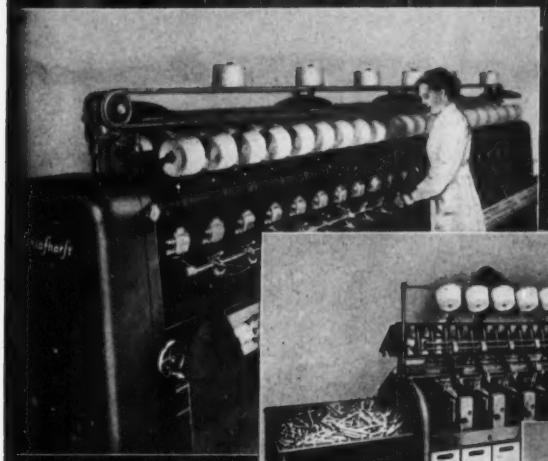
SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

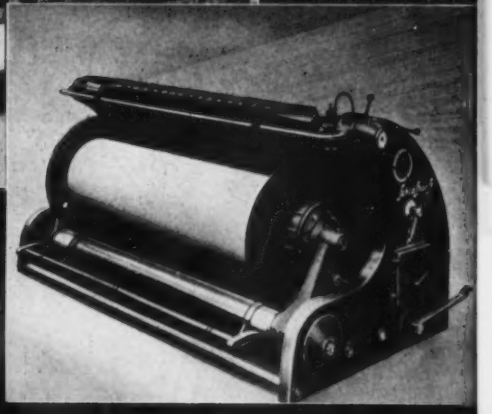
2-499

UNITED STATES STEEL

MACHINERY FOR WINDING AND WARPING

Schlafhorst





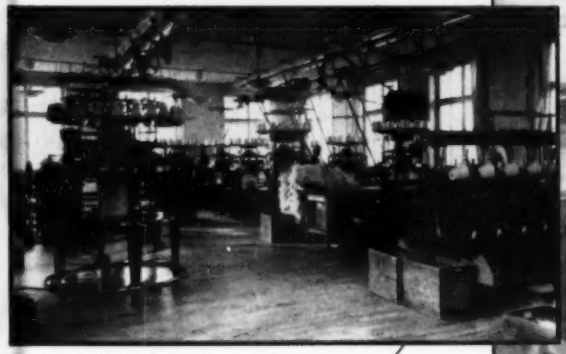
UNIONMATIC

MAKERS: - W. SCHLAFHORST & CO., M. GLADBACH, GERMANY

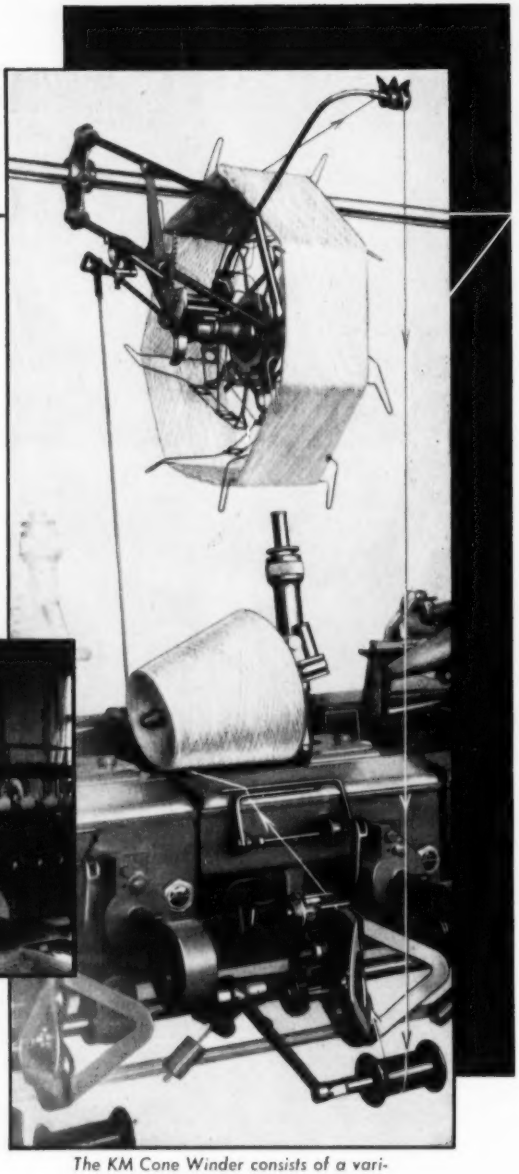
# Technical Perfection!

The Schweiter KM Cone Winder for cotton, wool and blended yarns is a machine of unrivalled efficiency and technical ingenuity. Following are a few of the many special features which assure positive increases in production and lower winding costs to operators of knitting and hosiery mills.

- **Winds perfect knitting cones**
- **Gear-driven wax application**
- **Automatic tension compensation**
- **No stretched yarn • No waste**
- **Direct winding from skeins**
- **No backwinding necessary**
- **Self-threading sapphire guides**



*The KM Winder feeding circular knitting machines.*



*The KM Cone Winder consists of a variable number of individual units each winding with equal efficiency from either skeins (shown above) or bobbins.*

*Write today for complete information and technical data.*

**SCHWEITER LTD.**

**HORGEN (Zurich) SWITZERLAND**

*Sole Agents for the United States and Canada*

**AMERICAN SCHWEITER COMPANY • WHITINSVILLE, MASS., U. S. A.**



For more information, write direct or use Reader Service post card.

# MACHINE STOPPAGE

## NOW RECORDED IN TERMS OF

## WHEN • HOW LONG • AND *why!*

**THE VITAL QUESTION**

*Think what this means in increased efficiency • lower costs!—it's the new*

# CENTRALOGRAPH

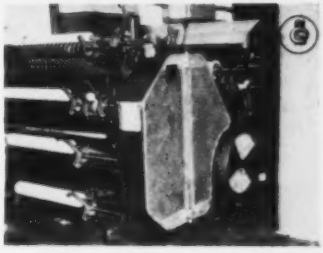
Now—for the first time in North America—there is a new and better way to measure machine efficiency. Now you can get the answers to the all-important question of WHY machines stop. There are many performance-recording machines on the market—but ONLY the Centralograph shows the WHY of stoppage, on a CENTRAL chart record that ALSO shows TIME of machine operation.

### GET ALL THE FACTS FROM CENTRALOGRAPH

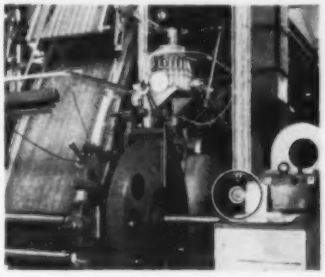
With the Centralograph Central Recording System, the operator of one or more machines—when one stops—immediately "telephone-dials" a code number giving the REASON for the stoppage. This number is recorded on the same graphic chart that records the starting, running and stopping time. The "dial" is placed on or near the machines for quick action.

This just begins to tell the story. The Centralograph, by giving you complete data you could never get before, makes possible increased output, lower overhead costs, improved quality. By reducing machine stoppage losses through knowing *why* machines stop, you can increase production. Think! A 5% or even a 3% increase in productive efficiency would quickly pay for a Centralograph installation!

Interested? Contact us today! We'll be glad to sit down with you and show you the possibilities of the new Centralograph System in your mill, how quickly it will pay for itself. Literature on request.



● Wool Carding Set with rotary contact and "telephone dial."



● Color Printing Machine with rotary contact and "telephone dial."

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**100 PARK AVE., NEW YORK 17, N.Y.**

● *Represented in Canada by:*
**ASSOCIATED CLOCK INDUSTRIES Ltd.**
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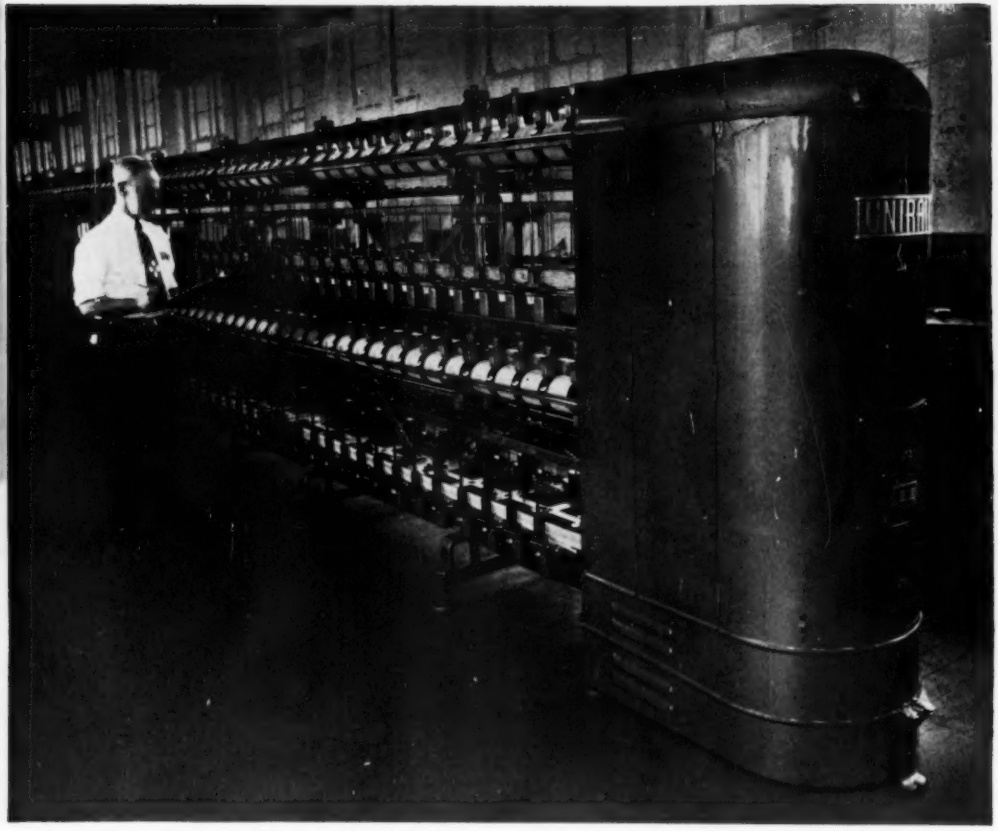
**EFFICIENCY CAN BE MEASURED!**

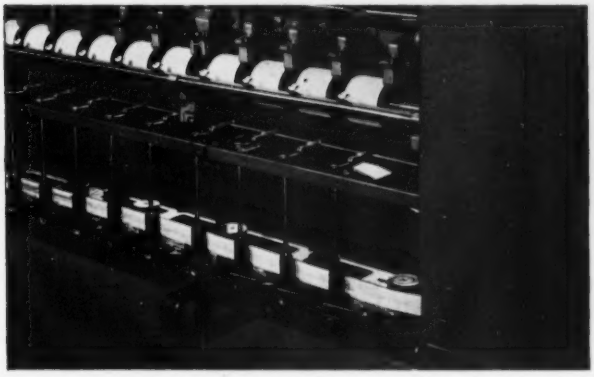
# All-New Unirail Uptwister

## cuts your costs four ways and improves yarn quality



**1. PRE-ERECTION AND FACTORY RUN-IN** before shipment greatly simplifies the installation of the Unirail Uptwister in your mill. This Standard Bobbin Take-Up Unirail Uptwister — here shown during factory run-in and inspection — comes to you in only three sections. They are ready to operate in a matter of hours. This pre-erection also eliminates the handling and storing of numerous boxes and crates . . . reduces costly supervisory time . . . does away with "missing parts" delays. These savings apply whether you order Straight or Tapered Headless Package, Bobbin Hanger, or Finger Take-Up Unirails.

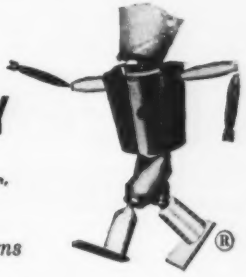
**2. LESS YARN HANDLING** leads to more production . . . lower costs and better quality. Straighter thread line from delivery to take-up package plus self-threading guide, quick threading centering eye, simple automatic tailing device and other features cut yarn handling time far below anything you've ever known before. This applies to both Bobbin and Headless Package Take-Up. Further time is saved on the Headless Package Unirail by the automatic tailing device and the entirely new hinged arbor, which guards quality by letting you doff without touching the yarn. Stop motion, too, protects the yarn by lifting the package off the take-up roll when an end-break or runout occurs.



**3. LESS MAINTENANCE AND LONGER LIFE** result from a combination of unique features. The new Uniflex Spindle, described at the right, requires lubrication only once a year. So do the ball-bearing idlers, which don't have to be removed for lubrication. Yearly lubrication takes care of the take-up shaft bearings and leakproof twist unit. All are designed to eliminate oil dispersion. This reduces lint accumulation. So, you don't have to clean machines so often. Clean machines means clean yarn production at all times. Accurate machining, sturdy cast iron bedplate construction and vibration reduction maintain alignment and retard wear.

**4. LOWER POWER COSTS**—according to tests under various conditions which showed savings up to 20% and more — result from the superior design features incorporated in the new Unirail Uptwister. Chief among them is the new high-speed Uniflex roller-bearing spindle. There's no other spindle like it. Its flexible lower blade and unique bearing design cut down vibration . . . reduce bearing loads . . . increase spindle life . . . allow safe speeds up to 16,000 RPM under satisfactory conditions.

**WRITE FOR BULLETIN 501** which shows you how the entirely new Unirail Uptwister improves yarn quality and package build at higher speeds and lower costs.



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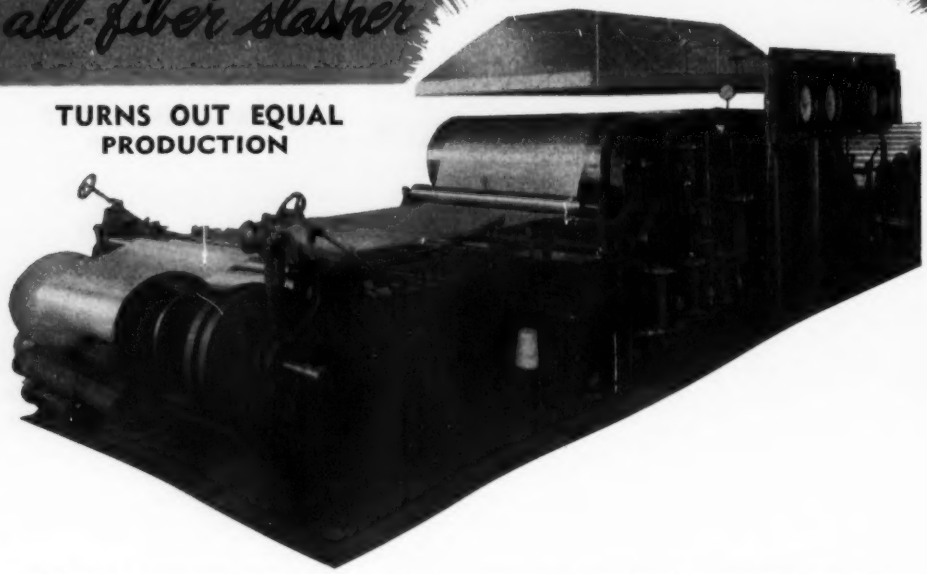
**Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland**

***Agents in every principal textile center throughout the world***

*Winding and Twisting Machinery for Natural and Synthetic Yarns*

23.1.30

# Southern Cotton Mill replaces 3 cotton slashers with 1 Johnson all-fiber slasher



## TURNS OUT EQUAL PRODUCTION

Determined to cut costs in its slasher room, an important southern cotton mill had us work with them to determine the cost of replacing three old cotton slashers with a modern ALL-FIBER JOHNSON 9 cylinder slasher.

The indicated savings were so impressive that this mill immediately placed an order for a modern Johnson machine.

Labor, steam, floor space, and replacement part requirements are sharply reduced. Better cotton warps are assured. Loom production is increased. If the mill decides to go into synthetics, it has a machine that will do a superior sizing job on rayon, spun rayon, acetate, nylon, orlon, and other yarns—at high production speed.

If you are interested in lowering your sizing costs, write us about our Johnson Sizer Check-up. It may uncover large savings in your slasher room. No obligation is involved.

**Charles B. Johnson**

PATERSON, NEW JERSEY

*New England Representative:* J. S. FALLOW & CO., New Bedford, Mass.
*Southern Representative:* LUCAS ASSOCIATES, INC., CHARLOTTE 1, N. C.
*Canadian Representative:* J. S. FALLOW & CO., Montreal, Canada.

*VOGUE says*

# Raisin

## —marvelous-for-daytime colour

*For your Fall shades—raisin, for instance—*
*Sandoz has the dye you need . . .*

**FOR COTTON OR RAYON COMBINATIONS OF CUPROFIX**

CUPROFIX Rubine BL, BLN, or FBL
CUPROFIX Bordeaux BL
CUPROFIX Brown GL
CUPROFIX Blue LUL

Aftertreat with Cuprofix or Cuprofix Resin for increased all-around fastness, crease-resistance, fabric stabilization.

**FOR ACETATE OR DACRON COMBINATIONS OF ARTISIL**

ARTISIL Direct Red B
ARTISIL Direct Blue GFL
ARTISIL Direct Yellow RN

These Sandoz colors combine excellent fastness to light and gas fading with good dyeing properties.

**FOR DYED-IN-THE-PIECE, QUALITY WOOLENS, WORSTEDS, WOOL AND NYLON BLENDS COMBINATIONS OF XYLENE**

XYLENE Fast Bordeaux P
XYLENE Fast Blue PR
XYLENE Fast Yellow P

You can depend on Sandoz to provide the best colors to meet your specified requirements.

*For forecast colors as well as perennial favorites for both natural and synthetic fibers, select from the Sandoz line of chrome, acid, acetate, direct dyes and auxiliary chemicals—detergents, dyeing assistants, finishes.*

# SANDOZ

*thinks ahead with textiles*

SANDOZ

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Three Products that Solve Three Problems
on wool, cotton, and man-made fibers
• scouring
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Sandopan TN
scouring efficiently alone or in combination with soap or alkali . . .
excellent in scouring, boil-off, kier boil, and for soaping-off, vats, and naphthols
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disperses dyestuffs and simultaneously prevents the formation of dye specks . . .
eliminates crack marks during dyeing
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for instantaneous and even wetting from 70° F to 200° F
offers fastest way to move goods from the loom to the finishing department
These Sandoz products can be used singly or in combination.
Send for your copies of these new Sandoz booklets:
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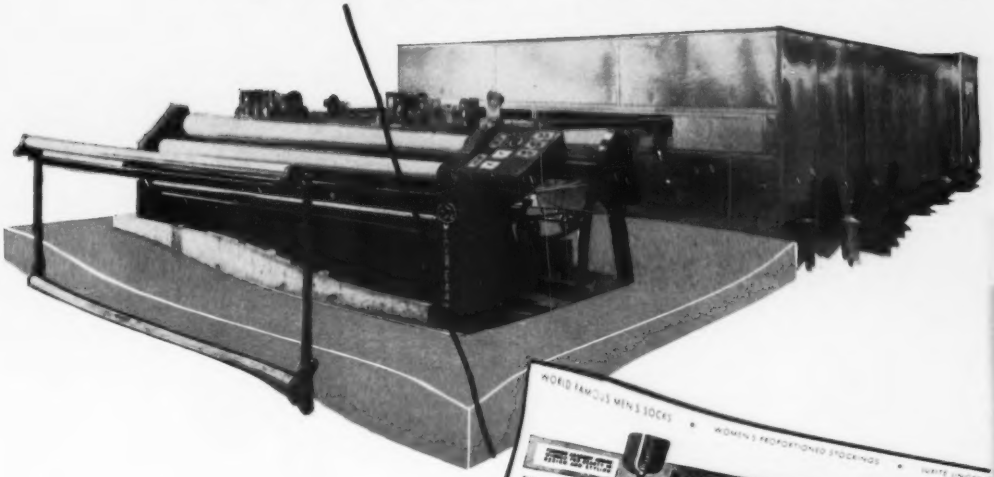
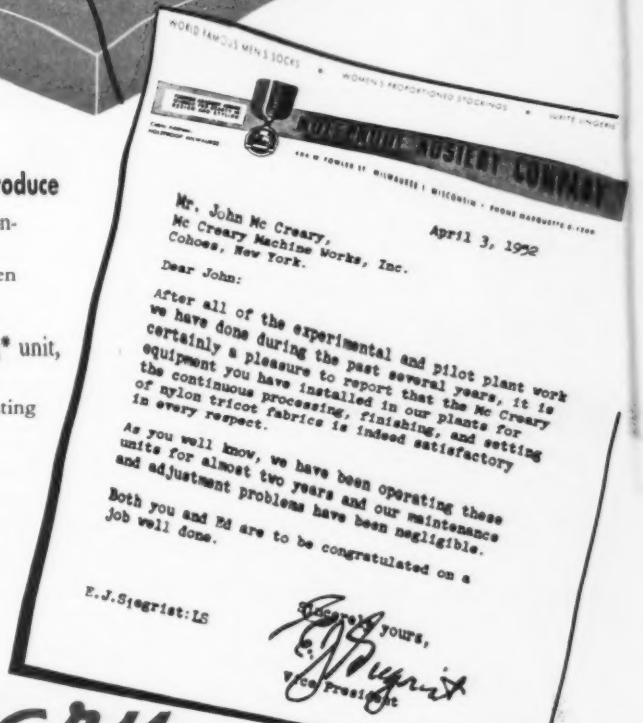
SANDOZ thinks ahead with textiles

SANDOZ

# "WELL DONE"

## says Holeproof Hosiery to McCreary





WORLD FAMOUS MEN'S SOCKS • WOMEN'S PROPORTIONED STOCKINGS • WHITE LINGERIE

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April 3, 1952

Mr. John Mc Creary,
Mc Creary Machine Works, Inc.
Cohoes, New York.

Dear John:

After all of the experimental and pilot plant work we have done during the past several years, it is certainly a pleasure to report that the Mc Creary equipment you have installed in our plants for the continuous processing, finishing, and setting of nylon tricot fabrics is indeed satisfactory in every respect.

As you well know, we have been operating these units for almost two years and our maintenance and adjustment problems have been negligible.

Both you and Ed are to be congratulated on a job well done.

Cordially yours,

E. J. Siegrist: LS

Vice President

**You, too, can save money, and produce superior fabrics,** with the McCreary continuous process for feeding, drying and setting nylon and other tricots and woven fabrics.

The revolutionary radiant electro-setting* unit, and automatic pinning and overfeed** are each available for installation on existing tenter frames.

**Send for FREE illustrated brochure on McCreary continuous process.**

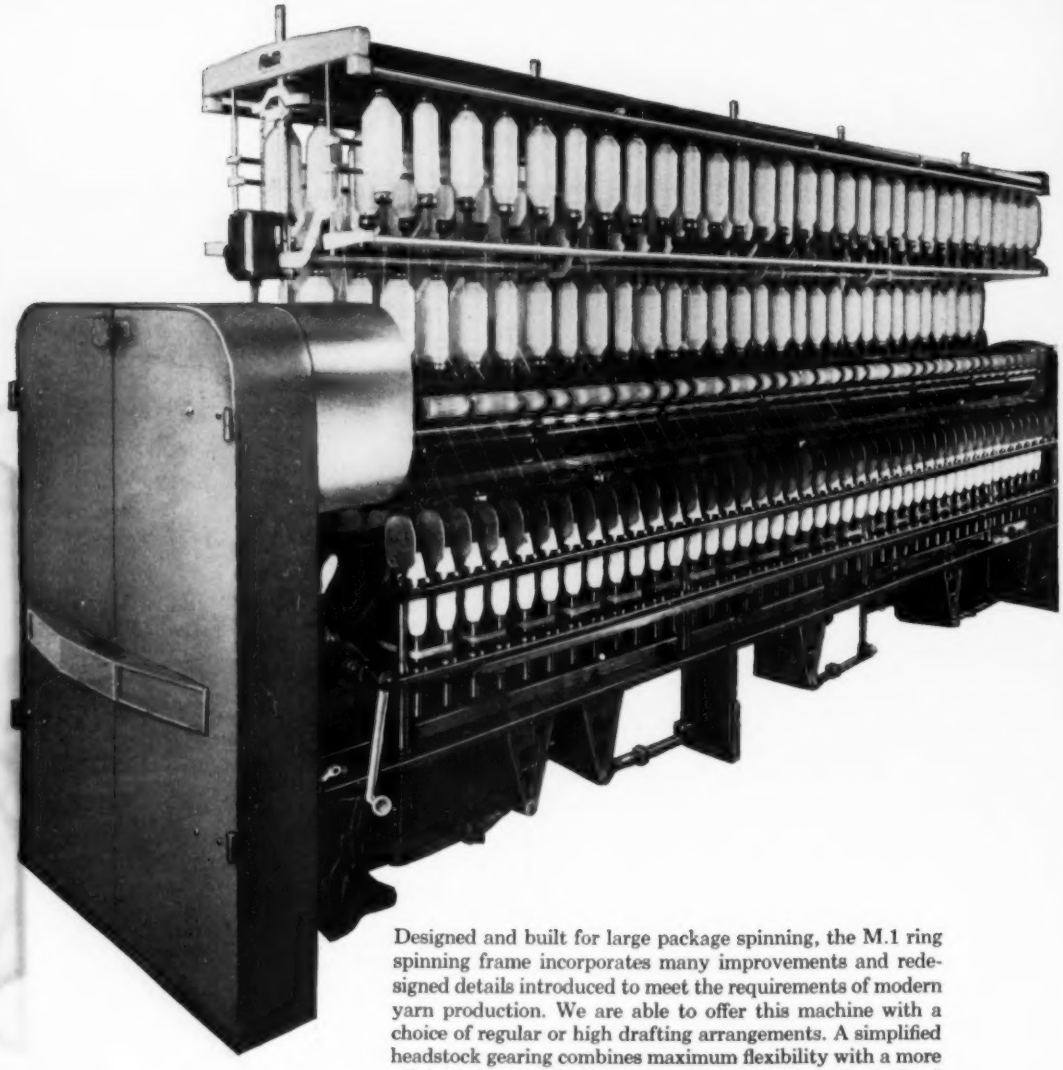
*completely equipped with G-E heaters and controls
**completely equipped with G-E controls

Patents applied for

# McCreary MACHINE WORKS, INC.

COHOES, NEW YORK

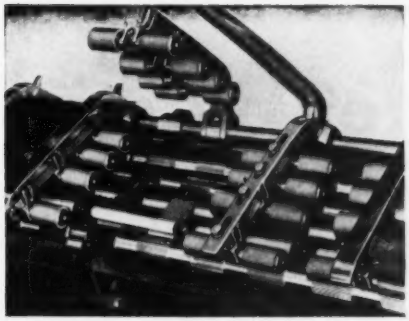
**manufacturers of the finest in textile machinery since 1874**



Designed and built for large package spinning, the M.1 ring spinning frame incorporates many improvements and redesigned details introduced to meet the requirements of modern yarn production. We are able to offer this machine with a choice of regular or high drafting arrangements. A simplified headstock gearing combines maximum flexibility with a more efficient drive and reduces power consumption. Centralized headstock lubrication allows the frame to be oiled while running. A combination building motion may be used which enables three types of build to be obtained on the same frame by means of simple adjustments. The Pneumafil system of broken end collection is optional. May we send you full data.

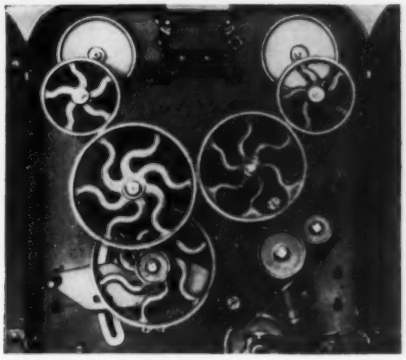
# M1 LARGE PACKAGE RING SPINNING FRAME

**PLATT BROS.**
SALES LTD. OLDHAM, ENGLAND



## NEW! SPRING ARM ROLLER WEIGHTING

Weight hooks and stirrups are gone. New spring arm adjusts to a wider range of staple lengths without altering the nip pressure. Resilience and pressure remain correct even after regrinding cots. Instant pressure release saves cots over week-ends. Central roller support arm raises for quick cleaning of ALL rollers. Few oilings are needed and none near the cots. (Pat. Pend.)

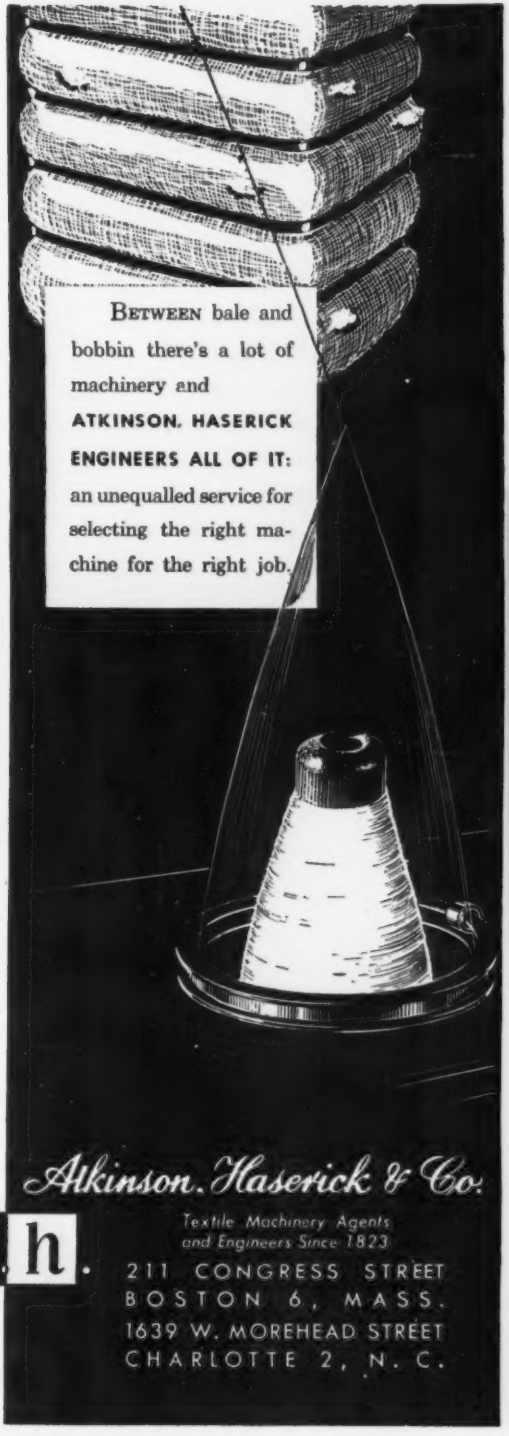


## SIMPLIFIED HEADSTOCK

Headstock gearing has a central lubrication system allowing frame to be oiled while running and avoids excess or under lubrication. Simplified gearing combines flexibility of turns per inch while using fewer gears. Greater efficiency is attained and less power consumed.

## HIGH SPEED SPINDLE

Cut-away, shows the heavy load, roller bearing spindle for large packages with long lifts. It is of the oil cushion ring brake insert design. They need routine maintenance at only 2,500 hour intervals. Power savings run up to 15% on this type of spindle.


BETWEEN bale and bobbin there's a lot of machinery and ATKINSON, HASERICK ENGINEERS ALL OF IT: an unequalled service for selecting the right machine for the right job.
Atkinson, Haserick & Co.
Textile Machinery Agents and Engineers Since 1823
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211 CONGRESS STREET
BOSTON 6, MASS.
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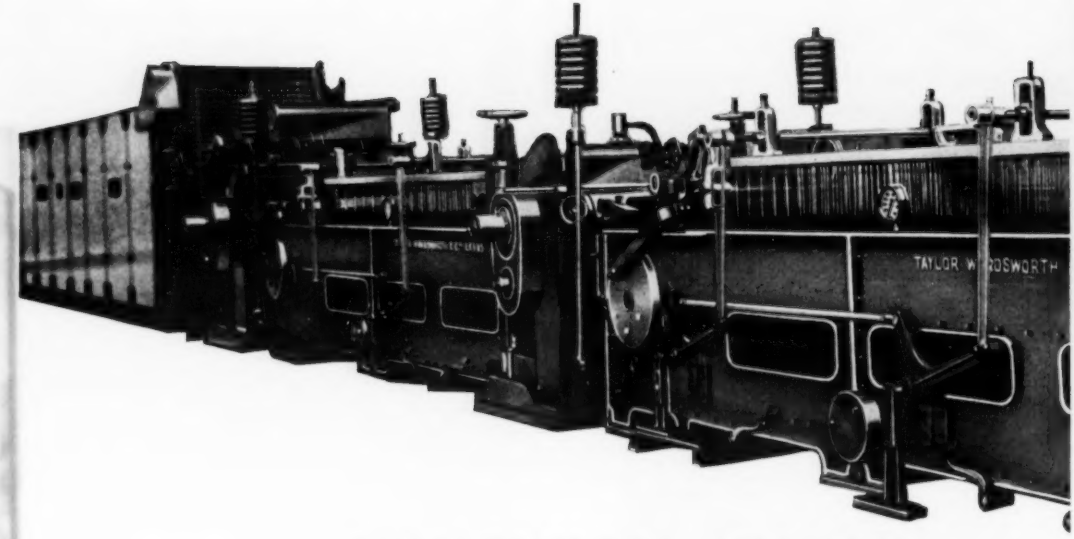
# clean, white, elastic,



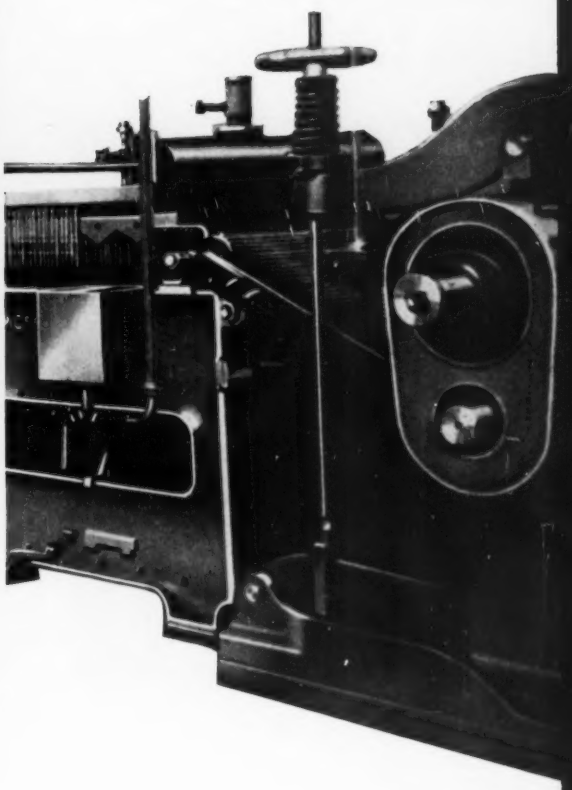

## LEVIATHAN WASHER & AIREFLOW DRYER

Strict adherence to high engineering standards ensures maximum production with minimum maintenance. The LEVIATHAN's harrow type action handles stock gently with little agitation, delivering a really clean wool to the AIREFLOW DRYER. This is the original dryer of this type and is still unsurpassed. Its patented Counter-Flow Air Circulating System delivers a cool, evenly dried lofty wool, with low steam consumption. AIREFLOW's streamlining, inside and out, keeps maintenance low and allows for easy accessibility. May we send you more data on wool washing or wool, cotton, flax, rags, etc. drying?

PSS AND S LTD

PRINCE-SMITH & STELLS
LIMITED
INCORPORATING TAYLOR WORDSWORTH & CO. LTD.
KEIGHLEY ENGLAND

# lofty stock



**TAYLOR, WORDSWORTH**
**& COMPANY, LTD.**

# Our responsibility does not stop

We are in no position to "pass the buck". Being engineers and agents for opening *to* spinning machinery, we realize that our responsibility does not stop with the function of an individual machine but also includes its effect upon your entire process. May we be of service to you in installing an individual machine or an entire mill?

*Atkinson, Haserick & Co.*

a.h.

*Textile Machinery Agents and Engineers Since 1823*

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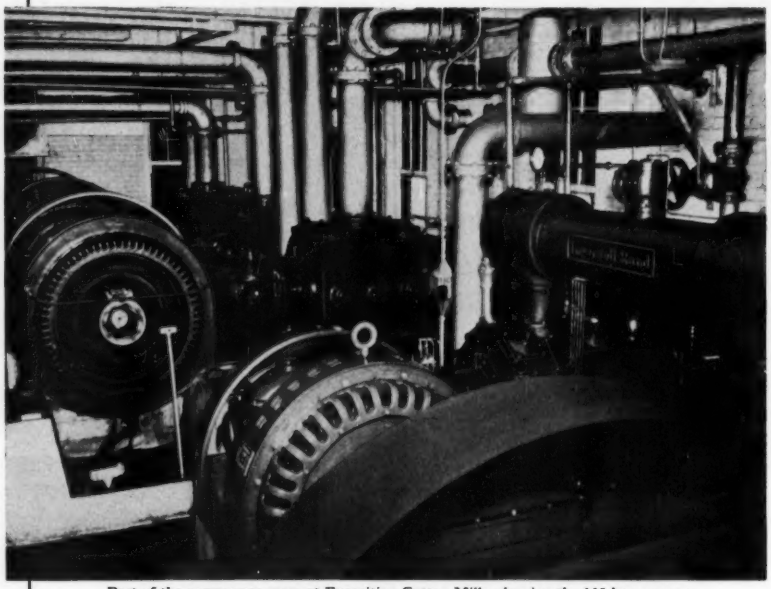
Some of the things **AIR POWER** is doing in Textile Mills

- AGITATE LIQUIDS
- MOVE SOLUTIONS BY DISPLACEMENT
- OPERATE HOISTS AND LIFTS
- CLEAN MACHINERY
- OPERATE AIR MOTORS
- CONTROL AUTOMATIC SPRINKLER SYSTEMS
- HUMIDIFY
- EVAPORATIVE COOLING
- OPERATE BALING PRESSES
- SPRAY LIQUIDS ON FIBERS AND CLOTH
- LOAD ROLLS BY AIR CYLINDER
- OPERATE PNEUMATIC TOOLS
- RAISE AND LOWER FOLDING MACHINE TABLES
- OPERATE CONTROL INSTRUMENTS
- OPERATE LAUNDRY-TYPE PRESSES
- OPEN AND CLOSE DOORS AUTOMATICALLY
- DEFLECT GOODS BY AIR JET
- CONTROL COMBUSTION IN BOILERS
- DO WOOL AND COTTON-ROLL PICKING
- DRY YARN
- CONVEY WOOL AND FIBERS
- DO VACUUM CARD STRIPPING
- MAINTAIN NYLON THREAD TENSION BY AIR JET
- OPERATE AIR CLOTH GUIDES

*for dependability and low cost*

# *It's* I-R *for* AIR POWER

## at Exposition Cotton Mills



Part of the compressor room at Exposition Cotton Mills, showing the 125-horsepower XRE two-stage 100-psi compressor (foreground) and three of the four 125-horsepower ES single-stage units, equipped with 3-step clearance control for maintaining 30-psi pressure within a 2-psi range.

It takes a lot of *air power* to operate a big, modern textile plant like the Exposition Cotton Mills. The compressors that supply this air power must be able to stay on the job around the clock, day after day, year after year. Operating economy is mighty important, too.

That's why Exposition is so well pleased with the I-R equipment which supplies *all* of its air-power requirements. Four Ingersoll-Rand, ES compressors installed as part of Exposition's multi-million dollar modernization program were installed by the American Moistening Co. for the operation of evaporative cooling atomizing heads. These machines have *never* had an enforced shut-down. The same is true of the XRE compressor, installed in 1945, for general mill service. It has given approximately 50,000 hours of trouble-free operation.

Dependability like this—plus high operating efficiency and ease of inspection and maintenance—makes I-R compressors an excellent long term investment for any textile plant. Your nearest I-R representative will be glad to give you complete information on the right equipment for *your* air-power requirements.

**Ingersoll-Rand**

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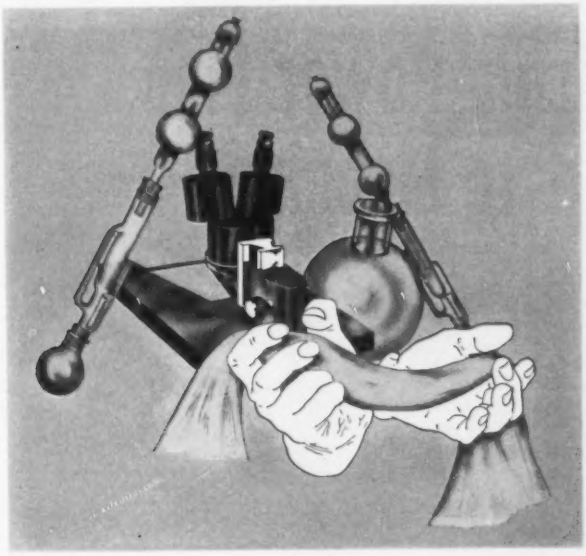
COMPRESSORS • AIR TOOLS • ROCK DRILLS

TURBO BLOWERS • CONDENSERS • CENTRIFUGAL PUMPS • DIESEL AND GAS ENGINES

STAR WOOLEN

## Service . . . Dependability . . . Quality Control



# *FREE Laboratory Analysis of Your Fibres!*

With the increasing use of synthetics in blends, many mills now find their testing facilities totally inadequate to meet the requirements of labeling laws and efficient processing. Accordingly, Star Woolen offers its modern, expanded laboratory services, without cost or obligation, as its contribution to the advancement of fibre technology in the textile industry.

### We Produce The Finest In Garnetted Stocks

As your source of uniformly superior textile fibres and synthetic garnets, Star Woolen's business will help *your* business. Whether your requirements are wool, any of the new synthetics, or blends, our laboratory controls are a safeguard, assuring you the utmost in quality in garnetted stocks. This exacting double-checking has earned for us the confidence of the world's leading manufacturers.

***WRITE FOR FREE DESCRIPTIVE FOLDER 52A***

## STAR WOOLEN co.

**Cohoes, New York**

# Built to Work

## From Power Line to Machine

ALLIS-CHALMERS

**TEXTILE DRIVES**

YOU WILL SAVE MONEY by getting your complete machine drives from one dependable source. When you use Allis-Chalmers coordinated drive components, you can be sure that they will be installed easily and quickly and that they will work together to give you dependable service at lowest possible cost. One reliable manufacturer guarantees the satisfactory operation of your complete machine drive.

### COMPETENT APPLICATION ENGINEERING

Allis-Chalmers application engineers, practical men with an intimate knowledge of the textile business, will help you select the best combination of motor, drive and control for your particular requirements.

If you are building a new mill or modernizing your old mill for higher speed operation and lower costs, discuss your drives with the Allis-Chalmers representative in your territory. He can help you plan for more profit. Allis-Chalmers, Milwaukee 1, Wisconsin. A-3708

*Texrope, Quick-Clean and Vari-Pitch are Allis-Chalmers trademarks.*

*Allis-Chalmers Textile Specialists*

**are located in the following cities:**

Atlanta, Georgia
Birmingham, Alabama
Boston, Massachusetts
Charlotte, North Carolina
Chattanooga, Tennessee
Dallas, Texas
New Orleans, Louisiana
Richmond, Virginia

# Better Together

## MOTOR CONTROL

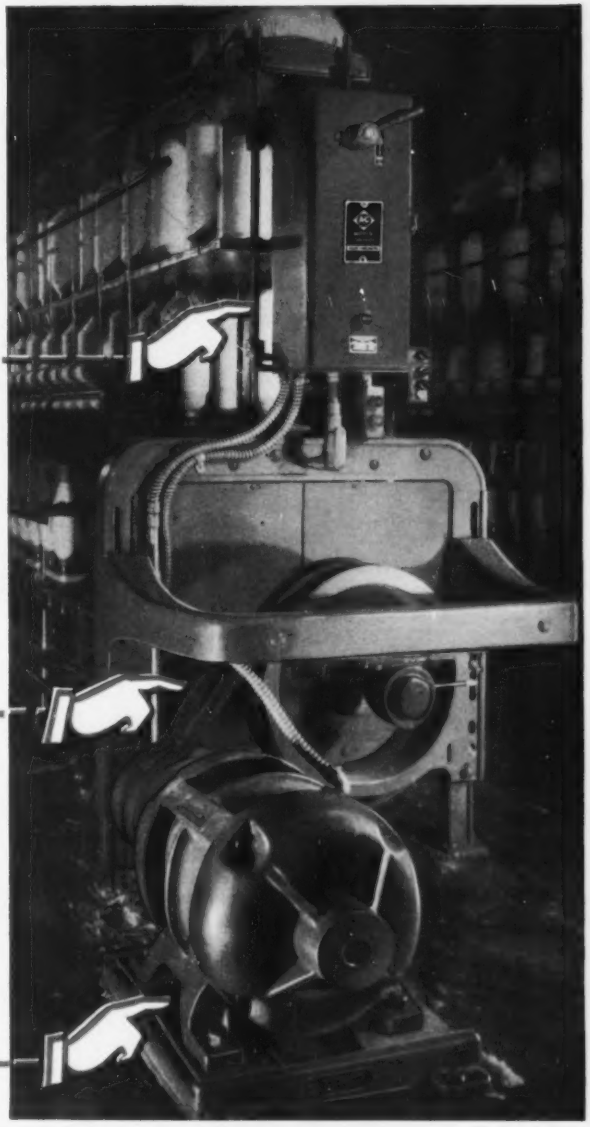
Standard types of textile motor control built to operate with Allis-Chalmers loom motors, *Quick-Clean* motors and all other Allis-Chalmers motors used in the textile industry. This is a full voltage AC magnetic starter with fusible disconnects which provides overload and undervoltage protection. Other starters are available for special service such as slow speed starters for card drives, loom switches and many other types preferred by textile mill operators. Enclosures may be lint-proof with interlocked cover handles for safety.

## TEXROPE DRIVE

*Texrope* V-belt drives, the original multiple V-belt drives for textile machinery, are available in both fixed and variable speed types. More and more mills are finding that the moderate extra cost of *Vari-Pitch* sheaves comes back many times in increased machine versatility and more precise quality control as well as reduced down-time for change-overs. With either Stationary Control or Motion Control *Vari-Pitch* sheaves, speeds can be accurately adjusted quickly and easily. Wide Range *Vari-Pitch* Sheaves cover complete operating range of most machines with one drive.

## TEXTILE MOTOR

*Quick-Clean* motors are of special wide-open design which cannot trap lint, overheat and burn out. Powerful fans sweep lint-laden air into the motor and right out again through large, unobstructed ventilating openings. All internal air passages are smooth, hard and streamlined so that lint cannot lodge. *Quick-Clean* motors are built with special acceleration and torque characteristics to meet special requirement of roving frames, cards and other machines. A special totally-enclosed, non-ventilated loom motor also is available.

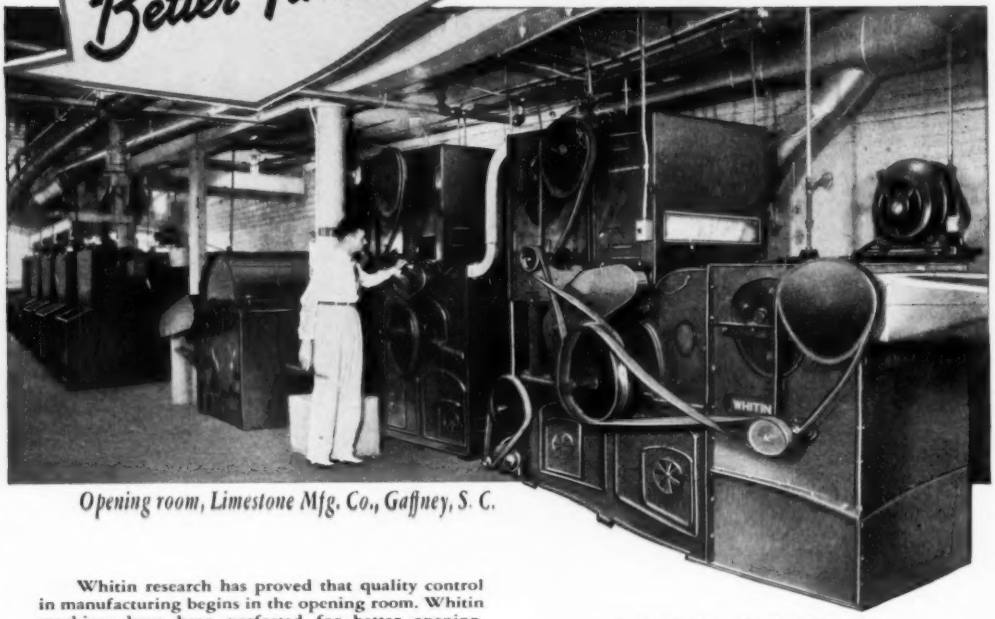


# ALLIS-CHALMERS

***Originator of the Multiple V-Belt Drive for the Textile Industry***

A *Good Start* insures a *Better Finish*

# *Quality* starts with WHITIN Opening Machinery




*Opening room, Limestone Mfg. Co., Gaffney, S. C.*

Whitin research has proved that quality control in manufacturing begins in the opening room. Whitin machines have been perfected for better opening, blending and cleaning. You can cut processing costs and improve product quality by installing modern Whitin opening equipment.

### BLENDING FEEDERS

With two or more Whitin Blending Feeders, a large number of bales can be used for making a more thorough, more accurate blend or mix of well opened stock. The machine is simple to operate, easy to adjust and maintain. Capacity up to 200 lbs. per hour.

### MIXING FEED TABLE

A uniform sandwich stock mix, automatically controlled, is made on the Mixing Feed Table. A floor type conveyor, it delivers the stock from a battery of Blending Feeders to a Cleaner, Overhead Condenser, or Picker as required. Available in any desired length.

### SPIRAWHIRL BUCKLEY CLEANER

The Spirawhirl is an indispensable machine for opening and cleaning all types of cotton without damage to the fibers. The amount and character of the waste removed by the eight adjustable grid bar sections is easily controlled. Recommended production is up to 1000 lbs. per hour.

### DOWNSTROKE BUCKLEY CLEANER

Generally used to follow the Spirawhirl, the 24" Downstroke Buckley Cleaner loosens and extracts large motes, leaf and dirt without breaking the waste into small particles. Recommended production up to 1000 lbs. per hour.

### FLEXIBILITY OF UNITS

These machines together with Cage Sections and Overhead Condensers, can be flexibly arranged to make any arrangement of the opening line required by the type of stock processed or the physical layout of the plant.

*For more detailed information, consult your nearest Whitin representative, or write to the Advertising Dept., Whitinsville, Mass. for descriptive catalogs.*

**Whitin MACHINE WORKS**

WHITINSVILLE, MASSACHUSETTS

**CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.**



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# Only One Wool Oil Supplier Offers You All This!

**1. SCIENTIFIC ANALYSIS...**
A S/V engineer uses special instruments (like this moisture meter) to analyze mill operations.

**2. ENGINEERING REPORT...**
After analysis, S/V engineer prepares report, with recommendation of correct wool oil.

**3. PROVED PRODUCTS...**
Recommended from complete line, meeting all degrees of scourability and discoloration resistance.

**4. LABORATORY SERVICE...**
Technicians in S/V laboratories make tests of mill samples to control performance on the job.

**5. PROGRESS REPORTS...**
Show efficiency of fiber lubrication, make recommendations for still further improvement.

## *Why accept less for your mill?*

There's no mystery about which wool oil is best for your operation when you call in Socony-Vacuum. Our fiber lubrication service and complete line of *S/V Woolrex Oils* assure your use of the right product—*on a price-performance basis!*

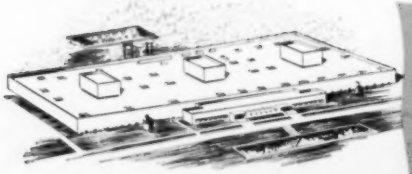
Why not get all five benefits of this exclusive wool oil service?

**SOCONY-VACUUM OIL COMPANY, INC.**
**Chemical Products Division, 26 Broadway, New York 4, N. Y.**

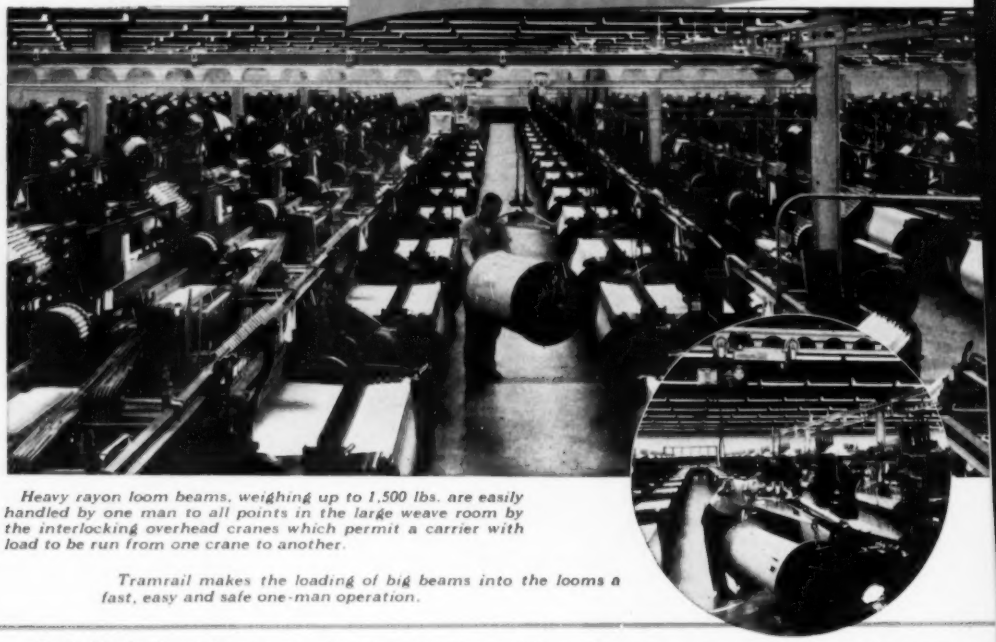
Process Products
SOCONY VACUUM

# Socony-Vacuum Process Products

 For more information, write direct or use Reader Service post card. 



# Ultra Modern GERRISH-MILLIKEN MILL



*Heavy rayon loom beams, weighing up to 1,500 lbs. are easily handled by one man to all points in the large weave room by the interlocking overhead cranes which permit a carrier with load to be run from one crane to another.*

*Tramrail makes the loading of big beams into the looms a fast, easy and safe one-man operation.*

Probably the finest, best-equipped and most modern rayon cloth plant in the country is the Gerrish-Milliken Mill in Pendleton, S. C. This beautiful air-conditioned, spotlessly clean building is provided with Cleveland Tramrail overhead materials handling equipment throughout.

Being a quality-conscious concern, producing the finest grade rayon cloth, it was quite natural that Cleveland Tramrail equipment was chosen for this mill because of the success with it at other plants in the Gerrish-Milliken group.

The arch-beam tracks, cranes and bridges are all of one-ton capacity. The hoists vary from 1,000 lb. to 2,000 lb. capacity, depending upon the application, and are all electrically powered to lighten worker fatigue. By using the same size track system throughout, even though lighter trackage would be ample for most present applications, flexibility is assured in case it should become necessary to rearrange the overhead equipment to accomodate a different production flow in the future.

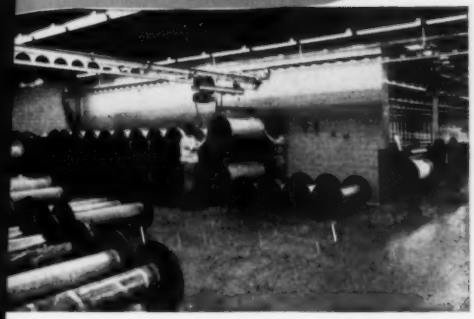
***GET THIS BOOK!***

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

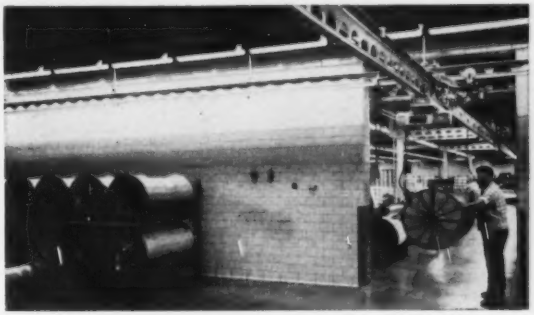
**CLEVELAND TRAMRAIL**

**OVERHEAD MATERIALS HANDLING EQUIPMENT**

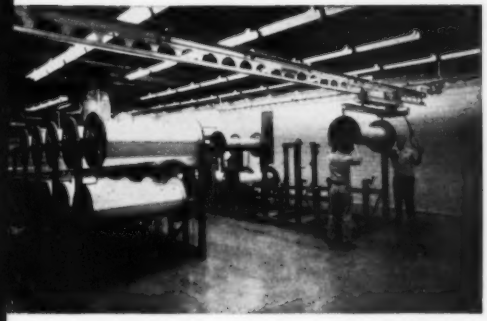
# Served throughout by CLEVELAND TRAMRAIL



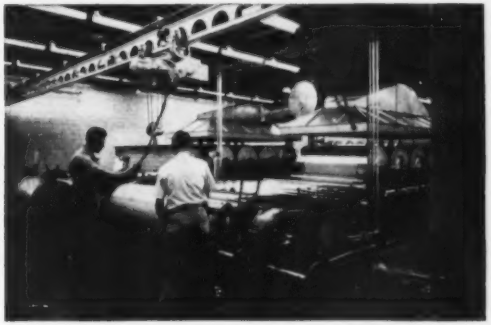
*Placing beam into slasher-beam storage rack. This is the same beam shown coming through doorway in other view.*



*A short stationary spur track in this doorway provides connecting link between a transfer crane in the warper department and another crane in the slasher room. When the cranes are interlocked with this spur, loaded Tramrail carriers can be transferred from one crane to the other. This enables delivery of beams directly from warpers to slashers or to slasher-beam storage without in-between handling or transferring to other conveyances.*



*The same crane seen in above photos is used to set beams into slasher creels. Note the great length of this and other cranes in this mill. Despite their length, the cranes roll smooth and easy regardless at what location the load is on the crane.*



*Loom beams are removed from the slashers with the same Tramrail crane which is used for loading them. A different hoist carrier will be noted on the crane from that in other views because seven different type Tramrail carriers are provided and these travel with their loads to various parts of the mill.*

**OTHER GERRISH-MILLIKEN MILLS EQUIPPED WITH CLEVELAND TRAMRAIL**

| | |
|---|---|
| Excelsior Mills | Clemson, S. C. |
| Darlington, Mfg. C. | Darlington, S. C. |
| Gaffney Mfg. Co. | Gaffney, S. C. |
| Judson Mills | Greenville, S. C. |
| Laurens Cotton Mill | Laurens, S. C. |
| Monarch Mills | Lockhart, S. C. |
| Pacolet Mfg. Co. | Pacolet, S. C. |
| Drayton Mills | Spartanburg, S. C. |
| Excelsior Mill | Union, S. C. |
| Monarch & Ottaray Plants | Union, S. C. |
| Abbeville Mills | Abbeville, S. C. |

**CLEVELAND TRAMRAIL DIVISION**
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**8478 East 287th St., Wickliffe, O.**

Century Textile motors are ruggedly built for long service life.

# TEXTILE MOTOR SHEDS LINT

-677

- STREAMLINE DESIGN
- COOLING AIR FLOW

Smooth clean air passages permit cooling air to enter the motor through the end brackets. This steady blast of air circulates near the bearings, around the windings and out through the adequate air passages in the frame.

Lint and textile dust pass through the motor readily, without clogging. This results in clean radiation surfaces, which means that the motor operates at normal temperature.

**Century Ball Bearing Textile Motors are lubricated at the factory for the life of the lubricant — under normal service, this is several years without re-lubrication.**

**However, evaporation or oxidation due to high temperature determines the ultimate life of the lubricant. Century construction permits re-lubrication, when required, without dismantling.**

In addition to textile motors, Century builds a complete line of electric motors in sizes from ⅛ to 400 horsepower. They are available in open rated drip proof, splash proof, enclosed fan cooled and explosion proof frames to meet any atmospheric hazard.

For complete information, including dimensions and prices, write today.

Century C MOTORS

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**CENTURY ELECTRIC COMPANY**

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# Perhaps Cellucord* is the yarn that will help you to improve quality and reduce costs!

The Cellucord Corporation, pioneer in development and leader in production of kraftcord yarns has, through its intense specialization and perfection of Cellucord Plasticized Backing Yarn, achieved an enviable position in the floor coverings industry.

While making this permanent contribution to one industry, our engineers have been delving into the possibilities inherent in this enduring, versatile made-in-America yarn for other industrial uses.

This yarn has already proved successful in the manufacture of hampers, seat covers, carriages, fruit bags, hand bags, matting, summer rugs; also in making shoe welts, cable wrap and other sundry products.

We feel certain that Cellucord has infinite applications in the Textile Industry, because it's a strong, durable, pliable, uniform yarn that can be woven or knitted into a fabric . . . can be coated or laminated with resins to make other desirable materials . . . is available in many colors and in many weights from 60 yds. to the pound to 2880 yds. to the pound . . . you can have it in several plies and in various twists . . . its supply is endless, its manufacture is dependable . . . it can be delivered on cones, spools, spindles, cops or what-have-you . . . and it is one of the world's most economical textile yarns to buy and to use.

Other features include resistance to flame, rot, dust. Dampness or moths cannot harm it. Extremes of heat or cold cannot affect it. Scrubbing or dry cleaning won't shrink it or stretch it.

***Why not have your fabric designers explore with us? Perhaps together we can help you to develop and produce new and better textile products—at lower costs—with Cellucord.***

**We are equipped and prepared to follow through to achieve results.**
**No obligation, of course, to find out. Send coupon or write**

*Reg. U.S. Pat. Off.

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*We are interested in learning more about Cellucord.*

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the modern plasticized yarn

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# FIBER FARE..... from Du Pont

## FINGER OF LIGHT points to LIGHT-WEIGHT clothes

In this test conducted by Du Pont technologists, a beam of light is directed at yarn closely wound around a frame. By measuring exactly how much light gets through, a photoelectric cell shows the bulk or "covering power" of the fiber. Man-made fibers, by producing greater strength and high bulk, have helped in the development of men's clothes that are *pounds* lighter than those worn 25 years ago.

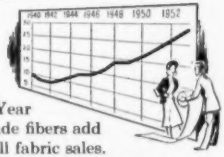
## -SURVEYS PROVE WRINKLE-RESISTANCE TOP SELLING POINT FOR "DACRON"

Men's enthusiasm for summer suits of both 100% "Dacron" and "Dacron"-wool blends was registered recently when interviewers talked to 1600 men who wore them. In addition to the wrinkle-resistance feature, qualities of press-retention, ease of care, appearance, feel and coolness scored high.

## "BEST-DRESSED" WOMEN ARE EVERYWHERE TODAY!

One of these women is a society leader and the other is a stenographer. Thanks to improvements in fibers, fabrics and clothing design, it is not possible to tell them apart. The man-made textile industry has contributed to a living standard that means greater abundance, better style . . . for everybody.

## BIG PART OF A GREAT BUSINESS




. . . *Getting bigger all the time!* Year after year, the sales of man-made fibers add up to a greater percentage of all fabric sales. The figure was less than ½ of 1% in 1920, 10% in 1940, 22% in 1950, and should pass 28% by 1953. These percentages stand for a lot of sales dollars, for shoppers spend more on fabrics than on any other item except food.

## HELP HER TAKE THE GUESSWORK OUT OF SHOPPING

The shopper shouldn't have to guess about the fiber content of a garment. It's good business when she's *told* —by salespeople—and *shown*—by label—just what the fabric's content is, and how it will perform as to wear, comfort, washing and cleaning. Good labeling and sales instruction will be sure to sell today's customer—more fiber-curious now than she has ever been before.

*Textile Fibers Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware. Du Pont makes only the fibers—not the fabrics or finished products shown.*

RAYON
DACRON* polyester fiber
NYLON
ACETATE
ORLON* acrylic fiber

*DU PONT TRADE MARKS

DU PONT

150th Anniversary

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

**DU PONT FIBERS ARE PLANNED FOR BETTER LIVING**

# *Color sells cloth... on sight*

Buyer's markets re-emphasize the selling power of distinctive colors. No other processing or finishing operation adds so much visible value at such small cost. For your new weaves or prints on any fiber or mixture, let National Aniline suggest colors that provide the optimum combination of properties for the fabric's end-use. National Technical Service Laboratories attached to all principal offices provide prompt and practical help on difficult dyeing problems. For precise matches and trouble-free results, rely on

## *National Aniline Dyes*

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Spinning Machinery for Cotton - Worsted - Cut Rayon
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Card-sets, Self-acting mules, Ring spinning frames
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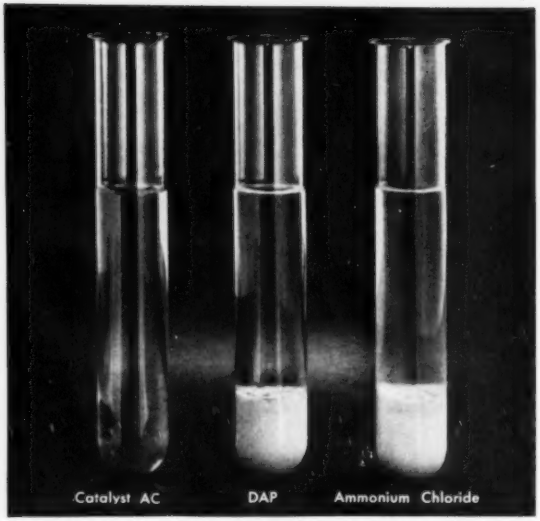
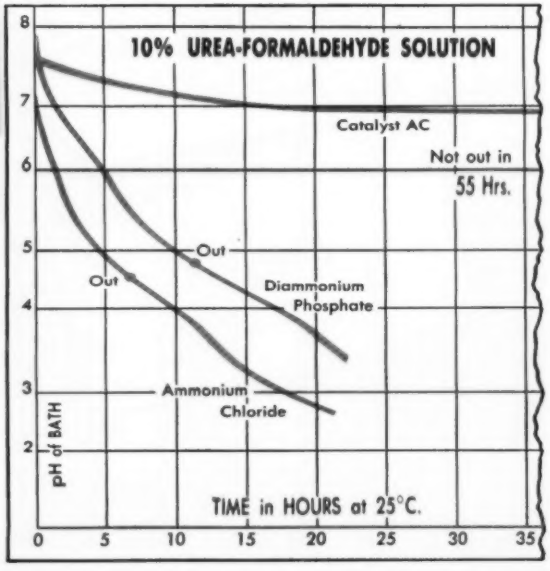
Weaving machines, Jacquard weaving machines, Medium and heavy felt cloth weaving machines
JOH. KLEINEWEFERS SOHNE
Calenders, Calender-bowls, Engravings, Mangles, Printing machines, Mercerizing machines, Continuous bleaching plants
MONFORTS
Finishing machinery, Making-up machinery, Corduroy and velvet finishing machinery, Double roller gins
UNIONMATEX
FRANKFURT-MAIN




Photograph demonstrates "snowing out" effect of DAP and ammonium chloride shown graphically in chart below. Ten percent solutions of urea-formaldehyde (Monsanto's Santaloom) and these catalysts were allowed to stand at 25°C., as was also a similar solution containing Catalyst AC. In the presence of DAP and ammonium chloride, resin particles settled out after only 10½ and 6½ hours respectively, while sample containing Catalyst AC remained clear and in complete solution for more than two days.

•

Chart shows "pH Change with Time"—10% Urea-Formaldehyde with three resin catalysts at 25°C. In bath catalyzed with ammonium chloride, pH dropped from 7.0 to 4.5 in 6½ hours, at which time resin settled out. In similar experiment with DAP as catalyst, resin particles "snowed out" when pH had dropped to 4.8 after 10½ hours. In bath containing resin and Catalyst AC, pH dropped only slightly below 7.0 and *resin had not begun to settle out after 55 hours.*




# LONGER LIFE

## FOR YOUR RESIN BATHS

**. . . when you use Catalyst AC!**

Take just a moment—think what it will mean to your own operations to have your resin baths remain stable and uniform for 24 hours or more—without refrigeration! Then ask your Monsanto representative (or write direct) for the full story on Catalyst AC.

Positive results of laboratory and plant applications over the past three years . . . with both urea and melamine resins . . . have proved that Catalyst AC offers several distinct advantages over other available compounds:

**Stable Bath** assures uniformity of resin application and retention.

**No Refrigeration** needed to hold down acidity and lengthen bath life.

**Objectionable Odors Minimized** . . . since no ammonium salts are present.

**Proved Performance** in producing desired qualities, such as washfastness and softer hands.

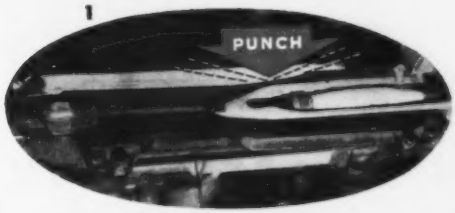
These benefits of Catalyst AC make it the outstanding resin catalyst available today . . . Why not give it a trial in your plant?

Santaloom: Reg. U. S. Pat. Off.

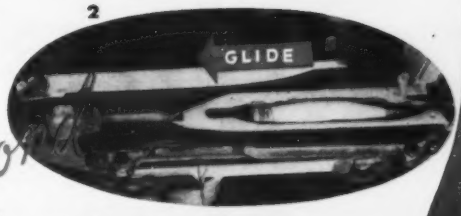
FOR MORE INFORMATION, WRITE
MONSANTO CHEMICAL COMPANY
TEXTILE CHEMICALS DEPT.
BOSTON 49, MASS.

MONSANTO
CHEMICALS—PLASTICS

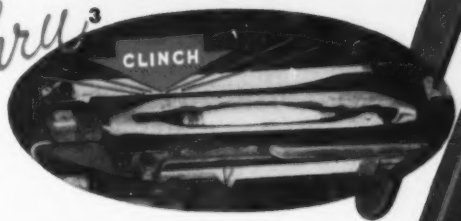
SERVING INDUSTRY . . . WHICH SERVES MANKIND




Stop-action photographs were posed after careful stroboscopic study of the action of the back plate while the loom was in operation. Top plate was removed for better visibility.




*Split-second follow thru*



## BOXMASTER Hairitan® Leathers provide all the qualities needed for perfect Boxing and Throwing

. . . because they give with the *punch* and go into a *clinch*. The *punch* is shown in Photo 1 where the shuttle strikes the shoulder of the binder, forcing it back away from the shuttle. In Photo 2 the shuttle moves further into the box while the binder returns. The *clinch* is shown in Photo 3 where the binder applies braking action which will bring the shuttle to a smooth stop with its nose in the picker at the end of the lay.

The exclusive G&K Hairitan tannage and finish give Boxmaster leathers tough body resiliency and deep velvety frictional surface needed for perfect boxing. Edges are smooth and catch-free; no waxes or fillers are needed.

Put G&K Hairitan Boxmaster Leathers on your looms. You'll profit through better boxing and lower replacement cost.

CATALOG presents the complete line of Textile Leathers for weaving—also aprons and tapes for the woolen and worsted industry. Ask for a copy on your letterhead.

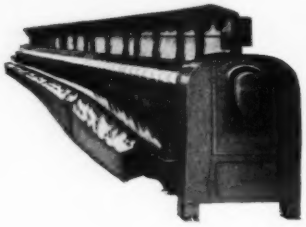
CUT SHUTTLE COST
(No hot spurs)
STOP KINKY FILLING
(No shuttle-bounce)
REDUCE BANG-OFF
(Perfect boxing)
INCREASE PROFITS

second century G and K Orange® Line Textile Leathers

GRATON & KNIGHT COMPANY, Worcester 4, Mass. DIXIE LEATHER CORPORATION, Affiliate, Albany, Ga.

# DROPPED PLY

## IT ISN'T POSSIBLE ON THE

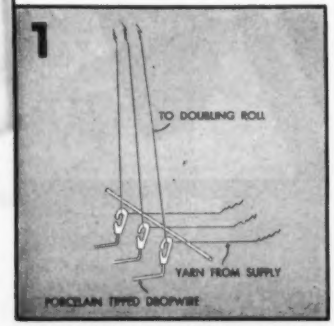


# FOSTER MODEL 57 DOUBLER

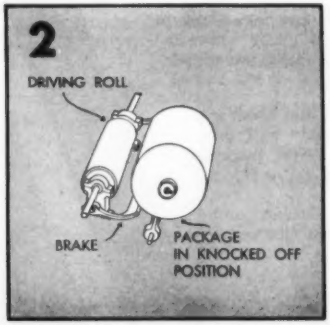
Each end drawn from bobbins or cones on the FOSTER MODEL 57 DOUBLER runs from the supply through a dropwire before reaching the doubling roll (see Figure 1). When supply from one cone or bobbin runs out, or when an end breaks, this dropwire falls and causes brake (see Figure 2) to stop package immediately. This prevents broken or run out end from reaching package (see Figure 3) and permits quick, easy single end piecing.

Note that the instantaneous acting brake comes up under the package and contacts it along the full length. This means quicker stops without damage to yarn. The dropwire brake action is only one feature of the Model 57. Here are some others:

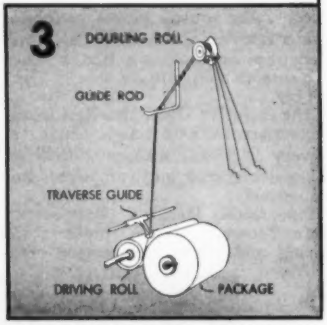
1. Machine may be equipped for one or two process doubling — direct from bobbins through slub catcher attachments, or from cones previously wound and inspected on FOSTER MODEL 102.
2. Guard prevents thread jumping off doubling rolls.
3. Minimum yarn strain by reducing number of sharp yarn bends.
4. Self-threading tension and slub catcher (when required) expedites quick threading and yarn inspection.




**QUICK-ACTING STOP MOTION,** with efficient brake, leaves sufficient yarn for single end piecing when supply runs out.




**EFFICIENT BRAKE** comes up under package and contacts the full length of tube. No adjustments, no parts to wear.




**SHARP BENDS IN THREAD LINE ELIMINATED.** Ends go from doubling roll to the Traverse Guide in back of package without any sharp bends. Minimum strain on yarn.

BULLETIN A-96 ON REQUEST

## FOSTER MACHINE CO., Westfield, Mass., U.S.A.

SOUTHERN OFFICE: Johnston Building, Charlotte, North Carolina • CANADIAN REPRESENTATIVE: Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. • EUROPEAN REPRESENTATIVE: Muschamp Taylor Ltd., Manchester, England

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for Really Tough Applications...
TROPICAL
heavy-duty
MAINTENANCE PAINTS
SINCE 1883

## THERE IS A TROPICAL *heavy-duty* PAINT FOR EVERY "PROBLEM JOB" YOU HAVE!

You don't have to resign yourself to frequent repeated painting on "problem" surfaces, using ordinary maintenance paints. In thousands of plants and buildings, for 69 years, Tropical *heavy-duty* maintenance paints have been solving these "problem jobs" effectively. Tropical fresh-mixed paints are specially formulated for the really tough applications. That's why they far outlast ordinary maintenance paints and endure where the service is severe! To select the right paint for the job, in the right quantity, and for correct method of application, use the expert service of the Tropical man in your community. Write us today!

*Since 1883*

**HEAVY-DUTY MAINTENANCE PAINTS**

**TROPICAL®**

SUBSIDIARY OF PARKER RUST PROOF COMPANY

MAKERS OF Bonderite QUALITY CORROSION RESISTANT

## WHY DO ⅓ OF U.S. TEXTILE PLANTS USE TROPICAL?

. . . because they have proved Tropical paints superior for a multitude of "tough" applications, from dye sticks and bobbins to oven trays and loom harnesses. Where chemicals, rust and moisture are real problems, Tropical *heavy-duty* paints far outlast ordinary maintenance paints!

**FREE!** Send for your copy of the "Industrial Paint Index"—a quick, convenient reference chart for a multitude of maintenance paint applications!

**THE TROPICAL PAINT & OIL COMPANY, 1120-1288 West 70th St., Cleveland 2, Ohio**

*This*
*Invisible Label*
*stands back of the Labels*
*of the*
*World's Finest Woven Fabrics*

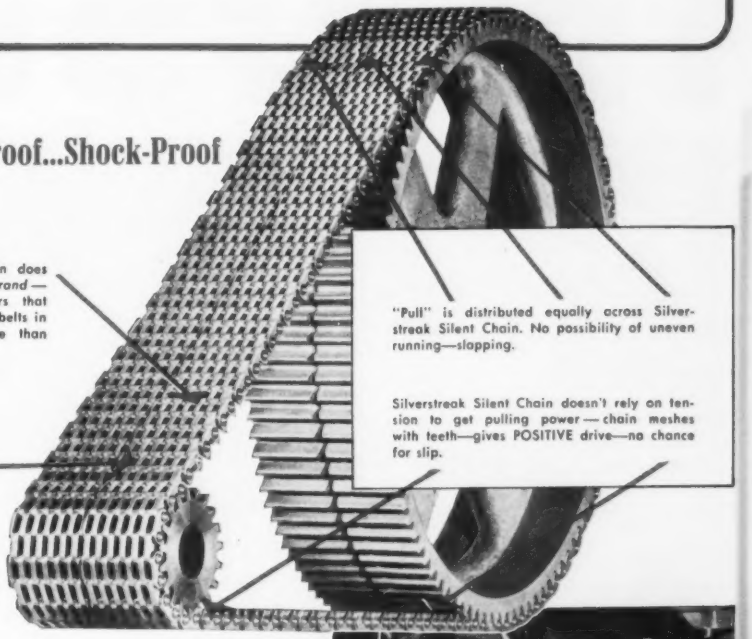
*Crompton & Knowles* LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

# High-speed, high-hp power transmission is an old story for Silverstreak Silent Chain Drives

## Slip-Proof...Slap-Proof...Shock-Proof



Silverstreak Silent Chain does the job with a *single strand* — eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.

Husky Silverstreak *metal link* construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.

"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.

Silverstreak Silent Chain doesn't rely on tension to get pulling power — chain meshes with teeth—gives POSITIVE drive—no chance for slip.

YES, for many years Link-Belt Silverstreak Silent Chain has been the accepted solution for the toughest transmission problems. These time-proven drives stand up under long years of high-speed, high-hp service . . . maintain their efficiency (over 98%) with virtually no attention.

Check the Silverstreak advantages shown here. See for yourself why so many concerns that must combine top transmission efficiency with unfailing dependability—standardize on Link-Belt Silverstreak Silent Chain Drives.

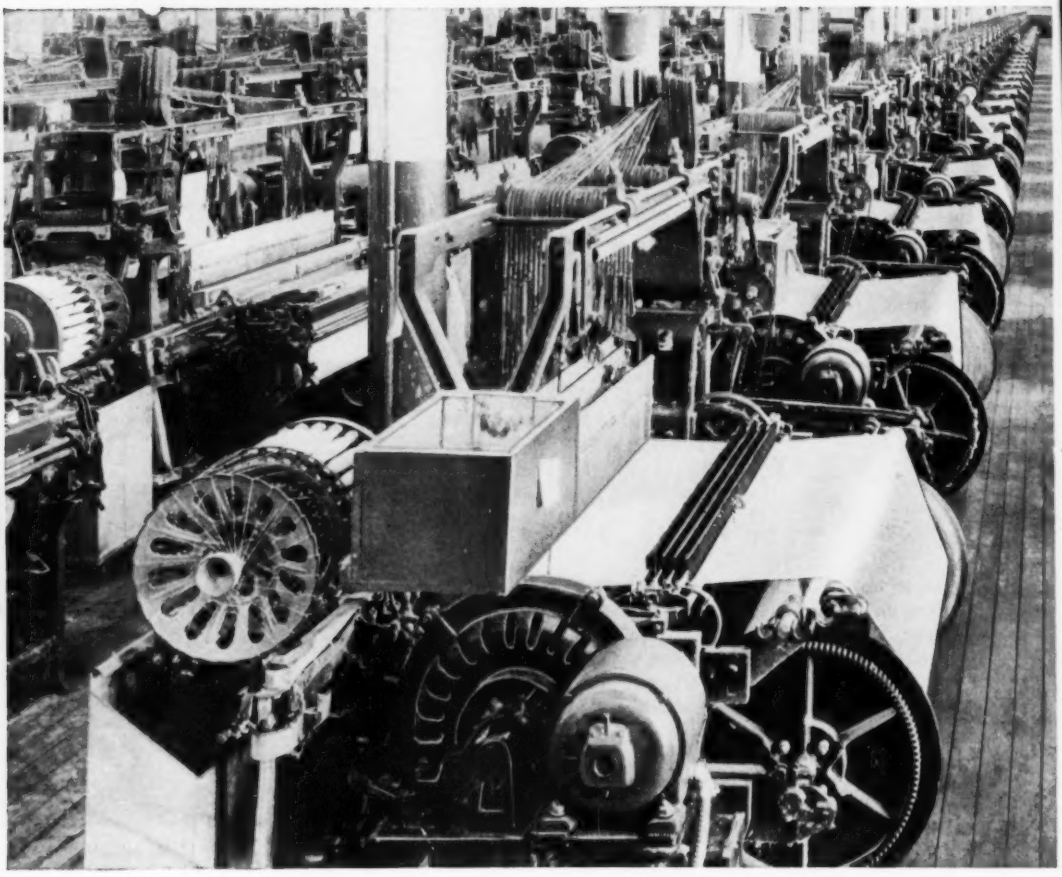
For 12 years, six 100-hp, 4700 f.p.m. individual Link-Belt Silverstreak Silent Chain and two-speed Herringbone Gear Drives at the Miami Daily News have served effectively, maintaining accurate register with minimum maintenance.

**LINK-BELT**

**SILVERSTREAK SILENT CHAIN DRIVES**

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities. 12,792

# PROVED IN USE!



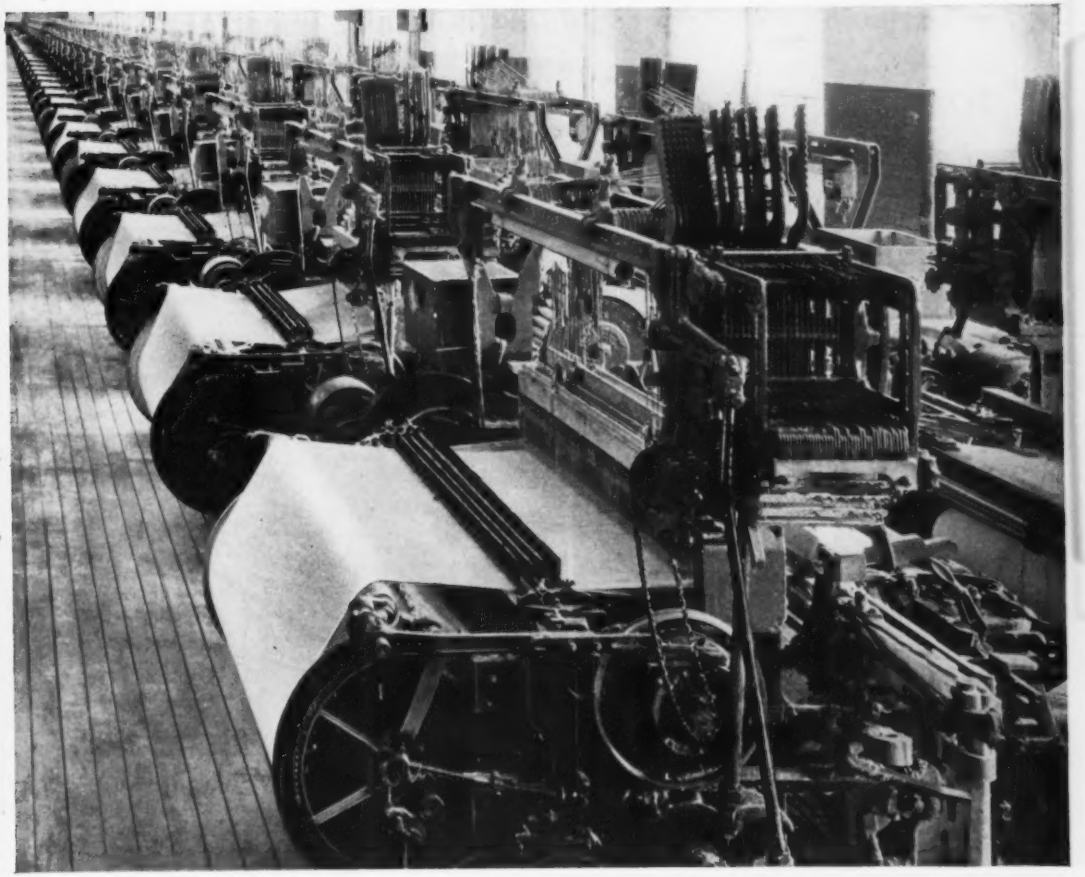
For lubrication counsel, contact your nearest Sinclair Representative or write Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y.

**HERE'S WHY SINCLAIR BEARING GREASE AF IS WIDELY ACCEPTED AS AN EXCELLENT LUBRICANT FOR ANTI-FRICTION BEARINGS:**

Because it is highly resistant to oxidation, this great Sinclair product retains its *consistency* and *lubricating quality* under the toughest operating conditions. It is designed to *assure* freedom from leakage and loss due to softening and bleeding and the product spoilage which often results. The correct grade of Sinclair BEARING GREASE AF helps *reduce* starting load and power consumption by cutting friction to a minimum. It also protects against rust and corrosion of bearings.

Yes, all these *important* advantages have been *proved* by performance in many mills. And they can save *you* money. Less frequent applications are required, bearings last longer, and power costs are lowered.

Investigate, too, the advantages of Sinclair LILY WHITE Oils for spindles *and* Sinclair NO DRIP Oils for top rolls. They also have been *proved in use!*



# SINCLAIR TEXTILE LUBRICANTS
## SAVE WEAR AND REPLACEMENTS

MANAGER

SUPERINTENDENT

# Whether You Are...

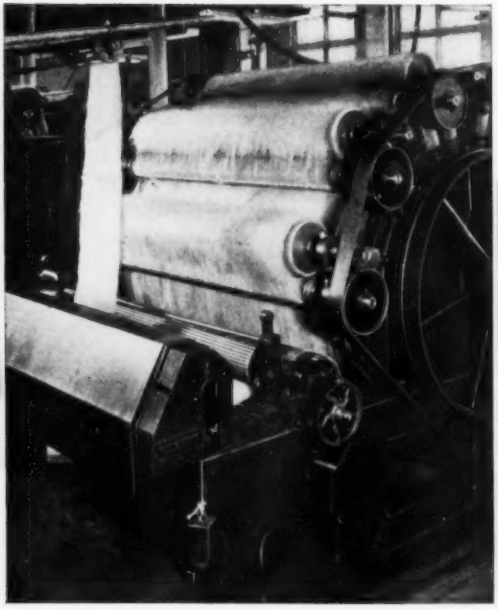
PURCHASING AGENT

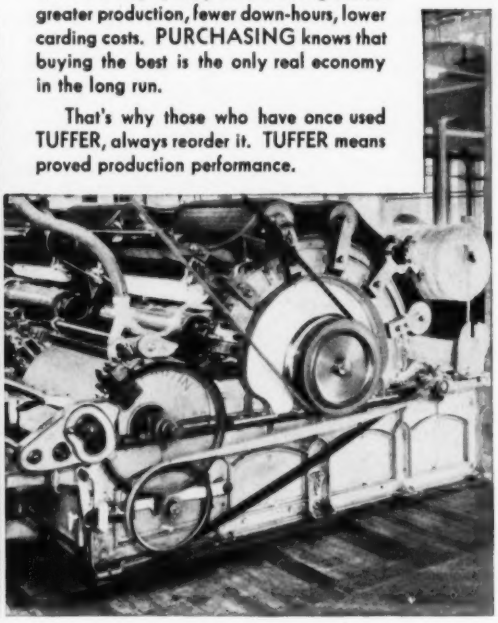
OVERSEER

## The Quality of Your Card Clothing is vitally important

MANAGEMENT and PRODUCTION know that top quality card clothing means greater production, fewer down-hours, lower carding costs. PURCHASING knows that buying the best is the only real economy in the long run.

That's why those who have once used TUFFER, always reorder it. TUFFER means proved production performance.





**HOWARD BROS. MFG. CO.** WORCESTER 8, MASSACHUSETTS

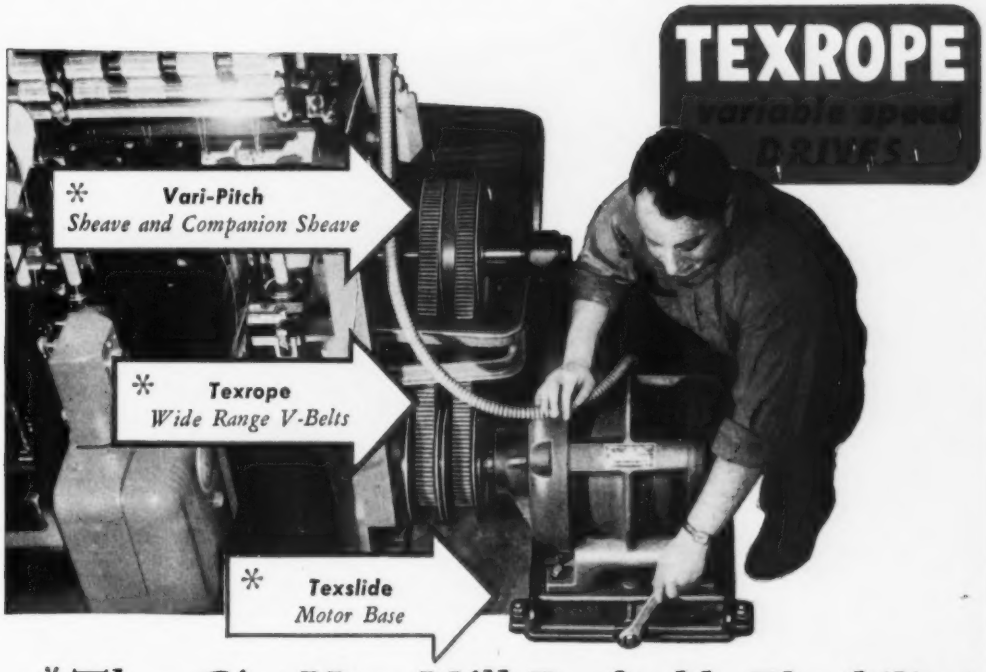
**Southern Plants:** Atlanta, Georgia and Gastonia, N. C. **Branch:** Philadelphia, Pa.

*Direct Representation in Canada*

A-2

. . . IT PAYS TO SPECIFY TUFFER CARD CLOTHING

# Spin ANY Number Yarn That'll Make You Money!




## *They Give Your Mill Profitable Flexibility!

SOME MILLS are flexible . . . can spin many yarn numbers. They're ready to take the most profitable orders no matter which way the market shifts.

Does your mill have this flexibility? For example, can you switch from sheeting to shirting? With fixed speed drives on spinning frames, your hands are tied.

If you are limited in the type orders you can handle . . . there's a low cost answer to your problem. A wide range *Vari-Pitch* drive will give you a lot of flexibility for few dollars.

Used with your present spinning frame, motor, and electric control, a wide range *Vari-Pitch* drive will provide almost 2 to 1 speed range. And that means more yarn numbers . . . more types of business . . . more profits.

Texrope, Vari-Pitch and Texslide are Allis-Chalmers trademarks.

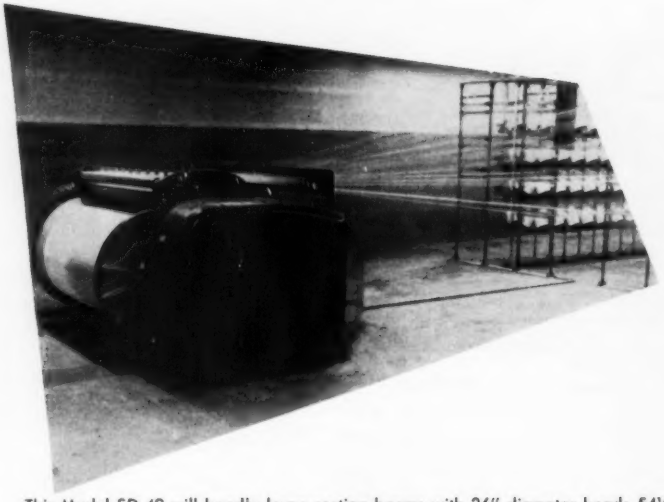
*There are Textile Specialists in each of the cities listed below. Call the nearest Allis-Chalmers office or distributor and find out what wide range* Vari-Pitch *sheaves can do for your mill. Or write Allis-Chalmers, Milwaukee 1, Wisconsin.*

| | |
|---|---|
| Atlanta, Ga. | Chattanooga, Tenn. |
| Birmingham, Ala. | Dallas, Texas |
| Boston, Mass. | New Orleans, La. |
| Charlotte, N. C. | Richmond, Va. |

A-3736

# ALLIS-CHALMERS

# *Especially Designed For Large Section Beams*



## The New Cocker Spindle Driven Warper

This Model SD-49 will handle large section beams with 36" diameter heads 54½" between heads or wider, as well as beams with smaller diameter heads. Can be run with either horizontal or vertical creels. Weighs approximately 9000 pounds. Heavy construction permits high speeds with minimum of vibration.

**Warner Electric Magnetic Brakes:** Provide synchronized control over main drive shaft, presser roll, and cross over roll brakes.

**Large Diameter Press Roll:** Adjustable pressure provided by heavy air cylinder.

**Beam Driven and Braked from Both Ends:** Eliminates undue strain on the beam.

**Driving Heads:** Equipped with self-centering chucks and driving dogs — both controlled by a single operation.

**Beam Loading and Unloading:** Easily and quickly done by air cylinder which operates the pressure roll.

**Standard Equipment on All Machines.**

**Static Eliminating Bar and Tape-off Bar.**

**Electric Predetermining Counter Clock.**

**Electric Speed Indicator.**

**Collecting Eyeboard on Back of Machine.**

**Positive Zig Zag Expansion on Front.**

**Push Button Controlled with Stations on Both Sides of Machine:** Convenient to operator — each station with Stop-Start and Jog Buttons.

**Speed Up to 1000 Yards per Minute.**

**Over-all Dimensions: 9' 2" by 7' 4" by 51½" high.**

THE LEADER AROUND THE WORLD

**COCKER Machine and Foundry Co., Gastonia, N. C.**

**WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT**

NUMBER 4 OF A SERIES

# How Gulf Periodic Consultation Service helps textile mills cut lubrication and maintenance costs

## PRACTICAL HELP PROVIDED ON LUBRICATION PROBLEMS

Through Gulf Periodic Consultation Service, Gulf offers a complete lubrication engineering program, supervised by trained specialists.

They survey equipment, make practical lubricant recommendations; provide simplified lubrication charts; and suggest better application methods. They also provide expert help on special problems that involve lubricants or lubrication.

Because of their extensive background of petroleum technology, they are familiar with lubricant properties, refining processes, and the performance records of various types of lubricants.

They know and completely understand the effect of different operating conditions on lubricants and, just as important, the lubrication requirements of all types of textile mill equipment. And available to them are the facilities of one of the finest petroleum laboratories in the world.

This is just one phase of the plan known as Gulf Periodic Consultation Service. For additional information, call in a Gulf Lubrication Engineer today or send the coupon below.

GULF SERVES INDUSTRY

Gulf Oil Corporation · Gulf Refining Company TW
719 Gulf Building, Pittsburgh 30, Pa.

Please send me, without obligation, a copy of the booklet "Gulf Periodic Consultation Service."

Name .....

Company .....

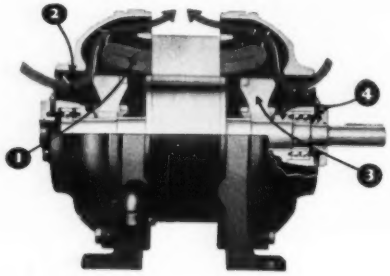
Title .....

Address .....

 For more information, write direct or use Reader Service post card.

**Unobstructed air passages** in the 40 G-E 15-hp screenless open textile motors in this mill let lint blow right through—keep motors operating continuously, even under severe lint conditions.

# LINT CAN'T STOP 'EM!




## G-E Screenless Open Textile Motors provide positive lint expulsion— keep spinning frames on the job

You're sure of *positive* lint expulsion with the specially-designed ventilating system in General Electric's screenless open textile motors. Cooling air sweeps freely through streamlined passages in the motor—there's no place for lint to accumulate. Spinning frames, roving frames, pickers, etc. stay on the job because lint can't cause motor windings to overheat, burn out.

For best results, call in your local G-E textile-mill specialist when you need textile motors. Bulletin GEA-1557 gives further details. *General Electric Company, Schenectady 5, N. Y.*

## Here's Why:

1. **Compactly-wound coils**—end turns are filled with smooth-finish compound. Lint can't accumulate on the smooth, hard surface.
2. **Specially-designed endshields** direct cooling air through fan and over the windings. Generous clearances assure positive expulsion of lint.
3. **Strong, smooth-surface fans** provide a smooth, powerful flow of cooling air. Blades are shaped and spaced to shed lint, keep it moving out.
4. **Bearing housing** keeps lint out and grease in. Fittings let you relubricate bearings—after years of service—without disassembling motor.

### Years of Service— then *easy* relubrication!

Bearing lubrication is no problem here. Grease reservoirs contain four times the ordinary amount. Bearing housing holds grease in constant contact with bearings. Eventually, after years of service, when lubrication is necessary to lengthen bearing life, a grease gun does it—without removing the endshields!

GENERAL ELECTRIC

654-20

Mount Hope FREE WHEELING EXPANDERS

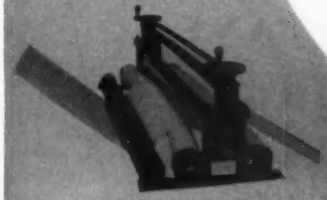
# 83.5% OF ALL U.S. TEXTILE MILLS USE MOUNT HOPE EXPANDERS

*Most Machinery Manufacturers Incorporate Them on Their Machines*

FREE WHEELING EXPANDER

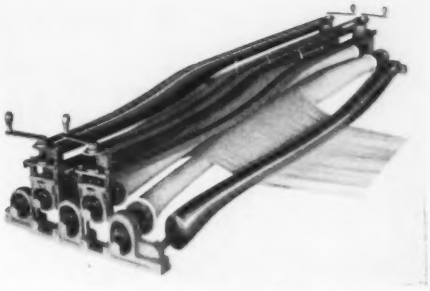
SLACK SELVAGE ELIMINATOR

BATCHER EXPANDER



3 BAR ADJUSTABLE EXPANDER

SEALED END EXPANDER



MOUNT HOPE 5 Bar Adjustable Expander

PRODUCE MAXIMUM WIDTH, ELIMINATE WRINKLES AND CREASES ON ALL TYPES OF MATERIALS FROM DELICATE FILM TO HEAVIEST TIRE CORD WITH MOUNT HOPE FREE WHEELING EXPANDERS

1. Ball Bearing constructed for long "free turning" service. Sealed end for wet service.
2. Minimum Maintenance, with convenient low-cost Service Plan for greasing and sleeve replacement.
3. There is a Mount Hope Expander or Expander device to meet practically every widthwise spreading requirement.

*Write today for Bulletin EC or*

Ask for Mount Hope recommendations to solve your particular expanding problems without obligation

MOUNT HOPE MACHINERY COMPANY

15 FIFTH STREET • TAUNTON • MASS.

# Complete FACTORING Service

**Next door to every MILL in the South**

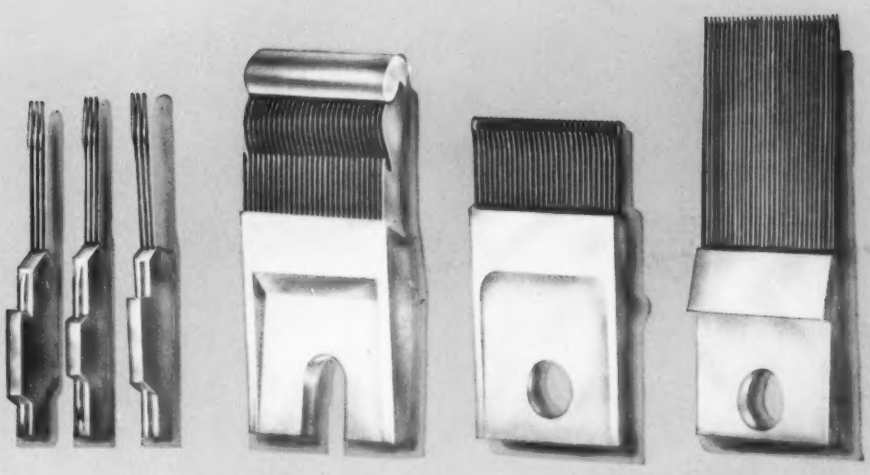
*Factoring Division*

## TRUST COMPANY OF GEORGIA

ATLANTA, GEORGIA

MEMBER: FEDERAL RESERVE SYSTEM • FEDERAL DEPOSIT INSURANCE CORPORATION

**For Tricot Knitters . . .**



*Top Quality*
*Leaded Needles and Parts*
*Now Available from Torrington*

Torrington's recently announced needle-leading service now includes a complete line of leaded needles, sinkers, guides and sley points to meet all demands of Tricot machine users for prompt, dependable service on high-quality leaded units.

Manufacturers of Tricot fabrics may now secure Torrington quality for every phase of their needle requirements. Your nearby Torrington representative will give you full details on how this new service can benefit your mill operation.

# The Torrington Company

Torrington, Conn., U.S.A. • Established 1866

*Branches:* New York • Philadelphia • Chicago • Boston • Greensboro, N. C. • St. Louis • Bedford, P. Q. • Toronto, Canada
*Pacific Coast Representative:* E. G. Paules, 1762 W. Vernon Ave., Los Angeles 37, Calif.

# no lubrication problem

The unique design of the Torrington Needle Bearing minimizes lubrication problems. The turned-in lips of the outer shell retain a large reservoir of oil and grease. And the full complement of small diameter rollers carries a thin lubricating film to all bearing contact surfaces. In some applications, the original lubricant will last for the life of the product.

Have you considered this and other Needle Bearing advantages—such as high radial load capacity, light weight and compact size—in terms of *your* product? Torrington engineers will welcome the opportunity to give you full details.

THE TORRINGTON COMPANY

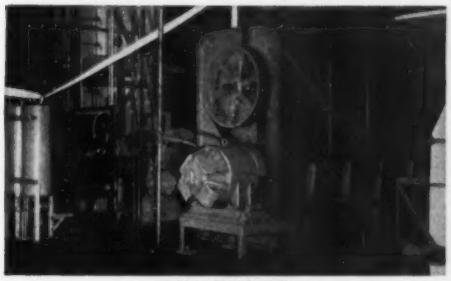
Torrington, Conn. South Bend 21, Ind.

*District Offices and Distributors in Principal Cities of United States and Canada*

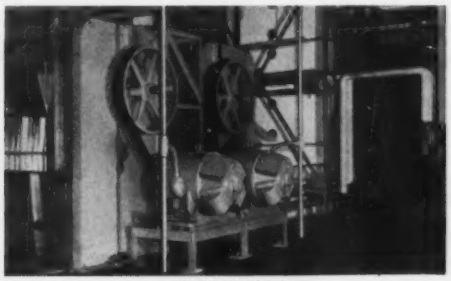
## TORRINGTON *NEEDLE* BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

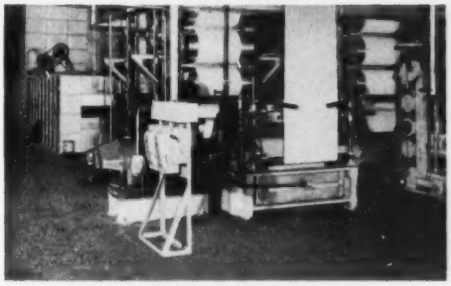
# From grey goods to finished roll...



BLEACHING RANGE

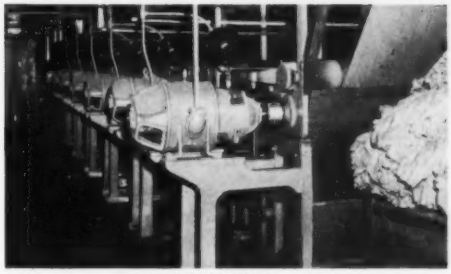


DOUBLE WASHER

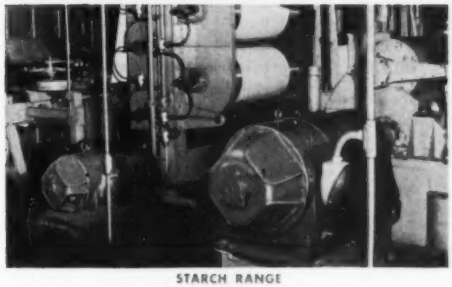


WHITE GOODS RANGE

SOAPER RANGE



OPEN SOAPER



STARCH RANGE

## RANGE DRIVES BY *ELLIOTT CROCKER-WHEELER* DC MOTORS

supply the closely controlled adjustable speed required to keep tension rigidly uniform, and the sturdy construction that insures dependable performance under conditions where unexpected stoppage or non-uniform operation would ruin or damage goods in process.

Elliott Crocker-Wheeler DC motors are available in all ratings from 1 through 200 hp in open, dripproof, splashproof and totally-enclosed types.

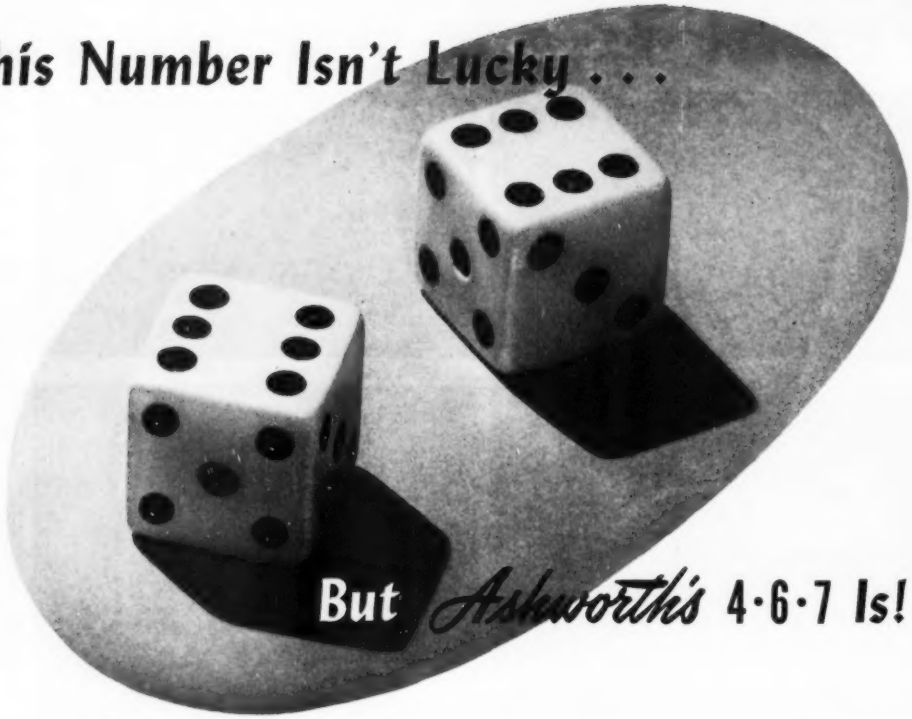
**ELLIOTT Company**

**CROCKER-WHEELER DIVISION**
**AMPERE, N. J.**

*For large motors:* RIDGWAY DIV., RIDGWAY, PA.
Plants at: JEANNETTE, PA. • RIDGWAY, PA. AMPERE, N. J. • SPRINGFIELD, O. • NEWARK, N. J.
DISTRICT OFFICES IN PRINCIPAL CITIES
*ELLIOTT APPROVED SERVICE SHOPS COVER THE COUNTRY*

W2-14

# This Number Isn't Lucky . . .




## Yes, Ashworth's 4·6·7 is LUCKY, because it Stands for:

**4** FACTORIES (Fall River, Worcester, Philadelphia, Greenville) which assure you of an uninterrupted supply of card clothing. Decentralized and strategically located, these factories can "pinch hit" for each other in emergencies.

**6** REPAIR SHOPS (Fall River, Philadelphia, Charlotte, Greenville, Atlanta, Dallas [Textile Supply Co.]), which assure convenient, economical and prompt reclothing and repair service.

**7** DISTRIBUTING POINTS (Fall River, Worcester, Philadelphia, Charlotte, Greenville, Atlanta, Dallas [Textile Supply Co.]), which make Ashworth products and consultation service more readily available.

AND DON'T FORGET "90". More than 90 years of experience in cards and card clothing — your guide to a consistently high standard of quality in manufacture and efficiency in performance.

*Buy Ashworth Card Clothing and be lucky ALWAYS.*

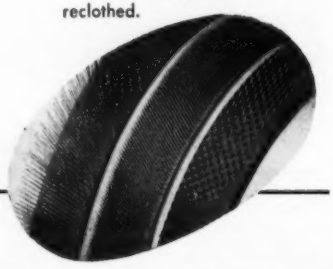
**ASHWORTH BROS., INC.**

***American Card Clothing Co. (Woolen Division)***

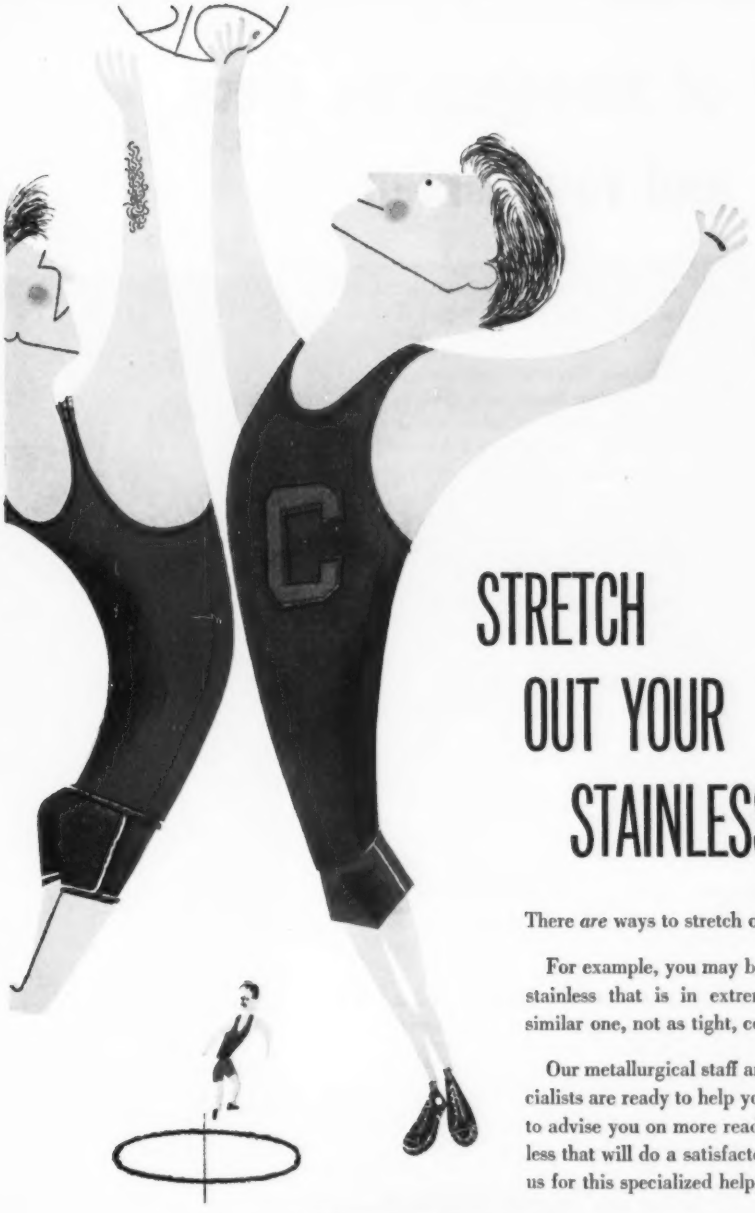
FALL RIVER • WORCESTER • PHILADELPHIA • CHARLOTTE • GREENVILLE
ATLANTA • DALLAS (Textile Supply Co.)

**PRODUCTS AND SERVICES**

. . . Card Clothing for cotton, wool, worsted, silk, rayon and asbestos cards and for all types of napping machinery. Brusher clothing and card clothing for special purposes. Lickerin wire and garnet wire. Sole distributors for Platt's metallic wire. Lickerins and top flats reclothed.



## Ashworth CARD CLOTHING



# STRETCH OUT YOUR STAINLESS, TOO

There *are* ways to stretch out your supply of stainless.

For example, you may be using a grade or finish of stainless that is in extreme demand when another similar one, not as tight, could do the job adequately.

Our metallurgical staff and stainless fabricating specialists are ready to help you look into this matter and to advise you on more readily-available types of stainless that will do a satisfactory job. Feel free to call on us for this specialized help.

**CRUCIBLE** first name in special purpose steels

*52 years of Fine steelmaking*

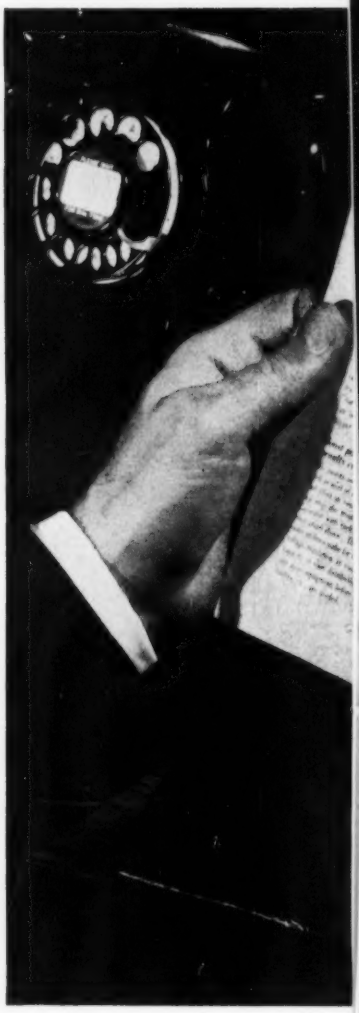
**STAINLESS STEEL**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

REZISTAL STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

# A bookful of moneysaving ideas for cotton and rayon men

Could you use ideas on cutting costs and improving your operations? This new free Westinghouse book is full of them. Here are a few examples.



### NO MORE LINT PROBLEMS

You can end lint problems in your motors and controls—right now. Lint blows right through the Westinghouse Lint-Free Motor so it can't cause trouble. And Westinghouse Lint-Tight Starters have special enclosures so that the lint can't get in to create a fire hazard. These motors and controls are available in a complete range of sizes and models to handle any problem in your mill.

### IMPROVED SLASHING

This book covers many specially engineered drives. For example, the famous Westinghouse multi-motor slasher drive which provides constant warp tension and results in more uniform beams. There's no jerky clutch operation. This permits higher slasher speeds and reduces maintenance. You save money and get better beams.

### BIG WEAVE-ROOM SAVINGS

Installing the new Westinghouse loom motors is one of the biggest improvements a mill can make. These motors need no lubrication so you save all that trouble and expense. They save on power and they drive the looms smoothly because of a precise combination of the right torque and flywheel effect.

### BETTER FINISHING

If you operate a finishing plant you can get much better control of the operations with new Westinghouse drives. On bleaching, dyeing and mercerizing ranges, for example, Westinghouse adjustable voltage drives give you high production with simple operation and excellent flexibility.

### CALL WESTINGHOUSE ON YOUR NEXT PROJECT

These are just a few of the savings outlined in this book. Write for your copy right now. And whenever you're planning *any* new mill project, be sure to call your Westinghouse office early.

**WRITE FOR B-4799 . . .** "Electrical Equipment for Cotton & Rayon Mills". Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-94915

YOU CAN BE SURE . . . IF IT'S

Westinghouse

EQUIPMENT FOR TEXTILE PRODUCTION

## *They did what you can do to reduce costs*

# *When you use* CLEANDRAFT NYLON-BEARING NON-LUBRICATING TOP ROLLS

## AT THE NEW LOW PRICE, THEY RAPIDLY PAY FOR THEMSELVES:

— eliminate all lubricating effort.
— give much cleaner yarn due to complete freedom from lubricant.
— important savings on picking and cleaning.
— installed in normal manner without extra cost.

**For back and middle lines. Not for front line use.**

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**21 VERNON ST., WHITMAN, MASS.**
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**Southern Service Office: Box 1863, Spartanburg, S. C.**

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*Virginia and North Carolina:* R. L. McCauley 1024 Vail Ave. Charlotte, N. C.

*Ark., Texas, Okla.:* Texas Roller Covering Works 2407 N. 17th St. Waco, Texas

*Peru:* William Crosby & Sons, S. A. P. O. Box 2326 Lima, Peru

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*France:* Thoma & Compagnie 21 Rue de la Chapelle Paris 18e, France

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**AHCOVELS*** give fabrics a softness you can *see*. You don't have to touch the fabric to know that here is the softest, silkiest hand you ever felt! AHCOVEL-finished fabrics drape softer, too!

These AHCOVEL Features Mean Better Processing Results:

Lasting resistance to usual laundering and dry cleaning.

Good stability to heat and storage.

Odorless.

AHCOVELS E., F. and R. assure full retention of light fastness of any color.

AHCOVELS A. and G. are cationic substantive softeners.

AHCOVELS E., F. and R. are anionic substantive softeners.

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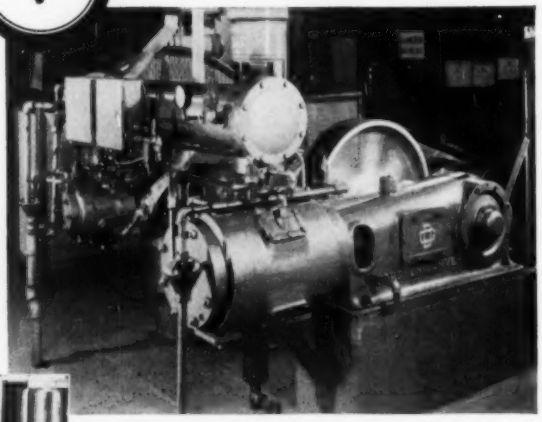
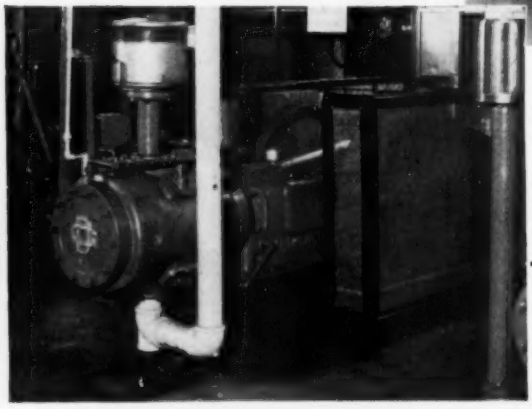
# for working under any pressure

## from 20 to 1000 pounds

Need compressed air at 20 pounds—100 pounds—1000 pounds? Gardner-Denver RX Horizontal Air Compressors can meet your needs exactly—with an efficiency that conserves power dollars like a miser. They're built for continuous, full-capacity service, with heavy-duty features such as extra large water jackets and unrestricted air passages. Write for complete details.

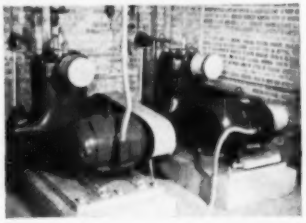


Here's an RX installation that supplies compressed air at 1000 pounds per square inch working pressure.



This RX Compressor runs 20 hours per day, 6 days per week, and has proved so satisfactory the owner soon ordered another RX.

The Gardner-Denver AA Compressor is designed with generous bearing areas, extra large water jackets, forced feed lubrication and many other features that assure uninterrupted service and low maintenance.



SINCE 1859

# GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois

In Canada: Gardner-Denver Company (Canada), Ltd., Toronto, Ontario

Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

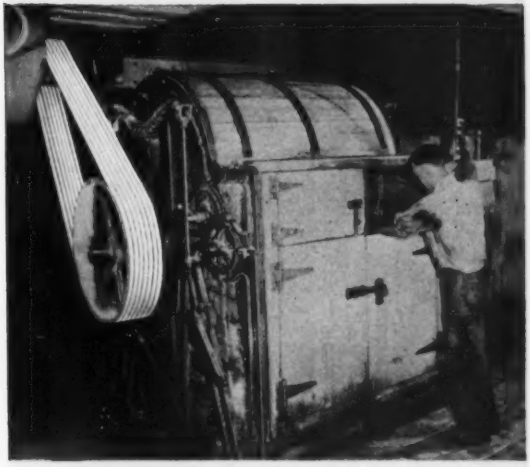
**THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS**

# How concave sides cut V-Belt costs

Important to anyone who wants to cut V-Belt replacement costs is the simple, interesting reason WHY Gates Vulco Ropes are built with *Concave Sides* (U. S. Patent 1813698). See Figure 1.

When a Gates belt is bent around a sheave these Concave Sides fill out to full, even contact with the sides of the sheave groove. (Figure 1A). This gives you sure pulling power. And, naturally, because wear is distributed evenly, the Concave Sides actually give you longer wear—longer belt life. That cuts V-Belt replacement costs.

On the other hand, when a straight sided V-Belt (Figure 2) is bent, the sides bulge out, preventing the belt from fitting evenly in the sheave groove. This causes *extra wear* at the points shown by arrows. (Figure 2A).



## Make this simple test yourself...

Hold a straight sided V-Belt as it would be bent around a sheave. Take the sides of the belt between your finger and thumb. You can *feel* the bulges in the sides—the bulges that prevent an even fit in the sheave groove and cause extra wear.

Now do the same thing with a Gates Vulco Rope. You can feel the sides fill out. You can see why they press firmly and evenly against the sides of the sheave groove—giving you longer belt life—lower belt costs.

When you buy V-Belts be sure to get Gates Vulco Ropes—the V-Belts with the Concave Sides.

Gates Engineering Offices and Jobber Stocks are located in all industrial centers of the United States and in 71 foreign countries.

### V-BELTS PERMIT SUDDEN STOPS

When flat belt driven fulling mills at the Glen Woolen Mills, Norwich, Connecticut, had to be stopped suddenly, inertia caused overrun which often destroyed several yards of cloth.

Individual plug-stop motors connected by Gates Vulco Ropes now give smooth, almost instantaneous stops and practically no overrun.

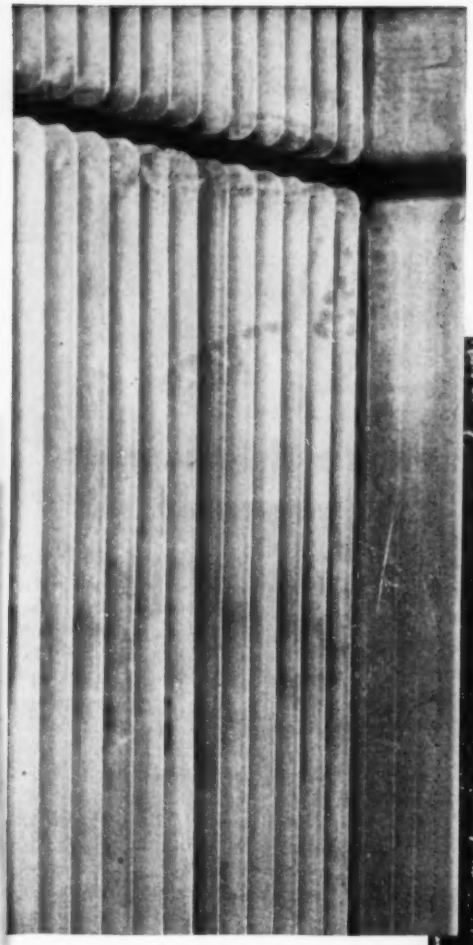
CS-526-D

Gates® VULCO ROPE DRIVES

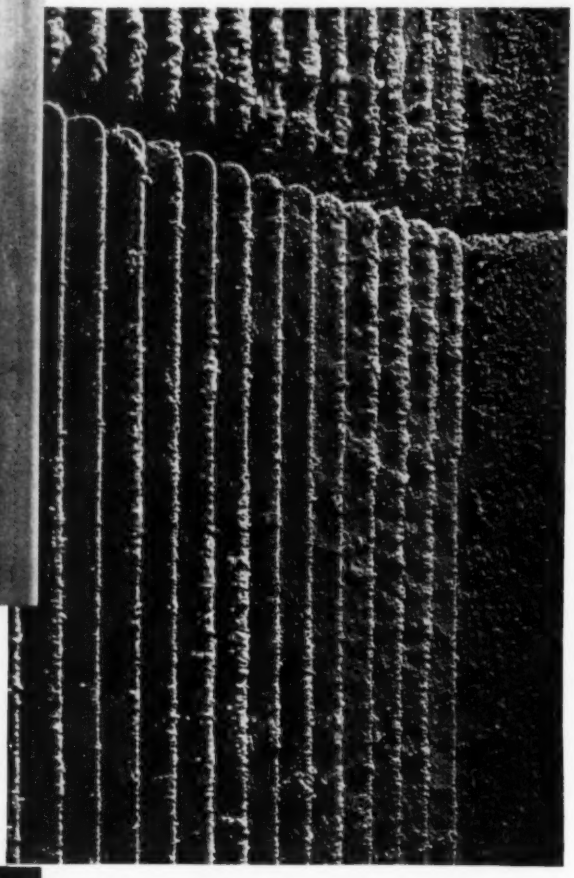
THE GATES RUBBER COMPANY • DENVER, U.S.A.

V-Belts — Hose
Molded Rubber Goods
for industry
World's Largest Maker
of V-Belts

# Precipitron®



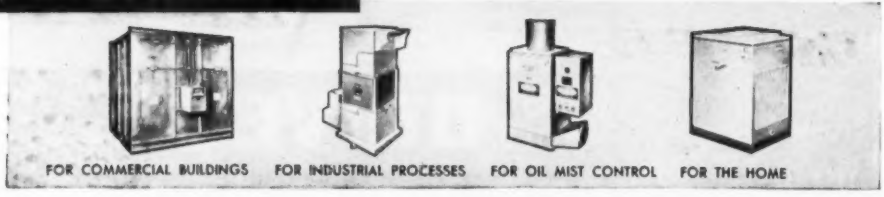
**BEFORE**—A close-up shows aluminum collector plates in clean PRECIPITRON cells. This is the way they appear after periodic washings, which dispose of all the trapped air-borne particles.



**AFTER** only 2½ weeks cleaning "normal atmospheric" air, the same plates had accumulated this much dirt. PRECIPITRON stops air-borne dirt, soot, pollen, oil mists.

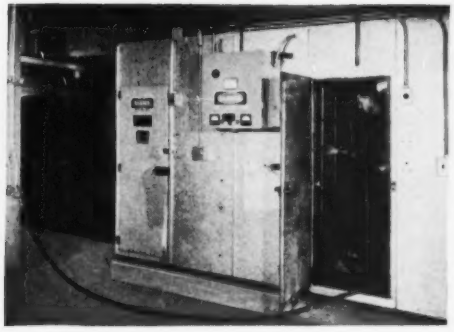
**ELECTRONIC *Air* CLEANING**

J-80227A



# —ELECTRONIC BARRIER

## *Against invisible dirt*



**Cleaning efficiency is 90% or better at 333 fpm; 85% or better at 400 fpm. Maximum linear space required in duct is less than 8 feet.**

**PRECIPITRON cell banks are readily accessible for thorough washing. You don't remove any part of the equipment. You don't handle dirty or messy elements. You just wash them down in place with a garden-type hose. The dirt flushes directly into the drain.**

**Where desired, PRECIPITRON can be furnished with Semi-Automatic Washer, or as a completely encased unit for minimum installation expense.**

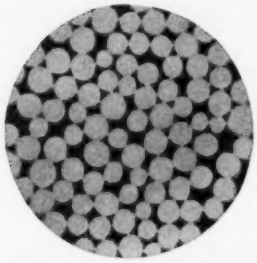
Air that's "fit to breathe" *isn't* clean enough. A particle of invisible, air-borne dust, no larger than 1/100,000 of an inch, can create an image on a bombsight behind which a battleship might hide. Minute corrosive particles will mar the super-finished surface of a vital engine part. Contamination by bacteria-carrying specks is dangerous in hospitals, laboratories or food processing plants. In industrial and commercial buildings, in industrial processes, in communication centers, stores, offices, and even in the home—air-borne dirt is costly everywhere.

But PRECIPITRON—the electronic air cleaner—will take *all* the dirt from the air, down to particles so tiny they can be seen only with an Ultra Microscope. If you wish to add electronic air cleaning to your present systems—or if you wish to *put air to work* with Sturtevant air handling or air conditioning apparatus incorporating electronic air cleaning—contact your local Westinghouse-Sturtevant office, or write to Westinghouse Electric Corp., Sturtevant Division, Hyde Park, Boston 36, Mass.

**YOU CAN BE SURE...IF IT'S Westinghouse**

# Things you might overlook when changing FIBERS

Cotton



Synthetic

*Call your Armstrong man –*

## Make sure your roll

**ARMSTRONG MEN** have years of textile experience. They're ready with up-to-the-minute solutions to today's problems. Put their experience to work for you. Call in your Armstrong man . . . *anytime.*

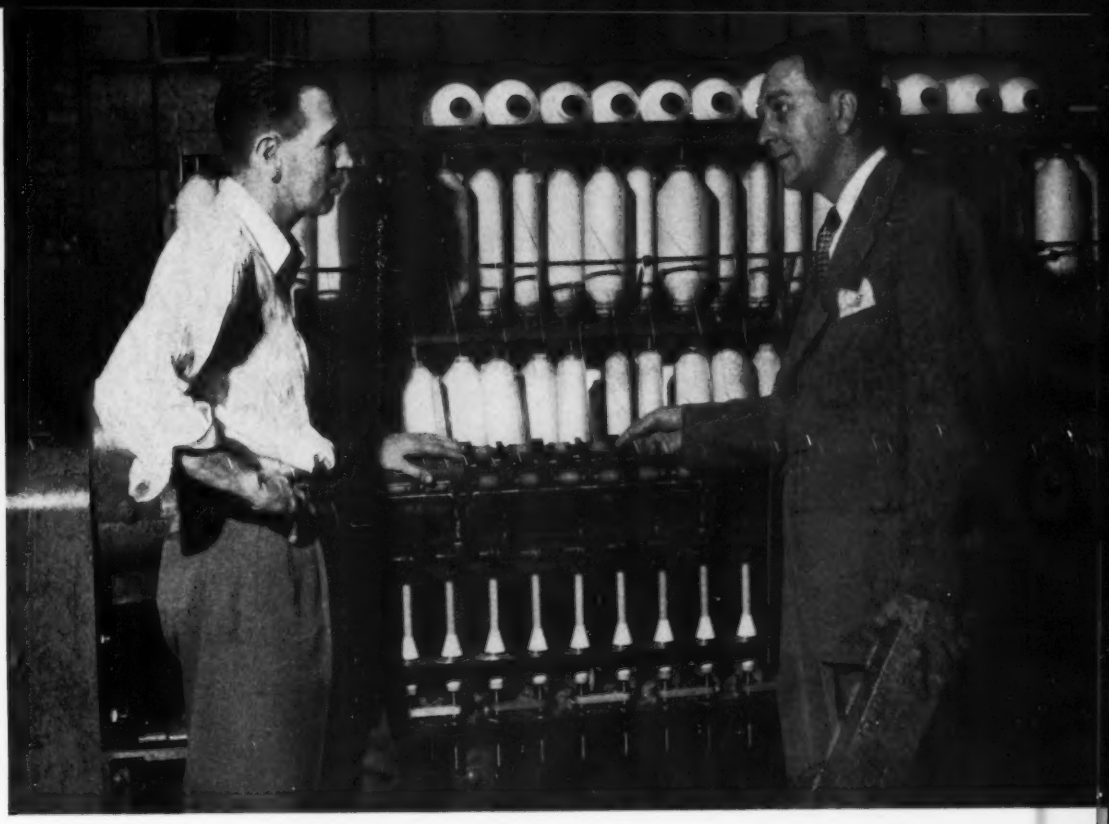
If you were to switch from cotton to one of the new synthetic fibers, you might need to change your roll coverings to get best results. There are a lot of other things, too, that may call for a change in roll covers—a change from flat to revolving clearers, for instance, or vice versa.

It would be hard to find a mill man who doesn't know this. Yet, with the thousand-and-one details of running a mill on your mind, it's surprisingly easy when making an operating change to overlook the possible effect on the roll coverings. Then, when you're ready to run, there's trouble.

That's why so many mill men make a regular practice of talking over any proposed changes with their Armstrong representative BEFORE they make them. (You'd think we were bragging if we told you how many mill men do this!) Actually, when you run on any one of Armstrong's covers, the covers themselves are only half of what you get.

The other half, of course, is the training and ex-

**ARMSTRONG'S**



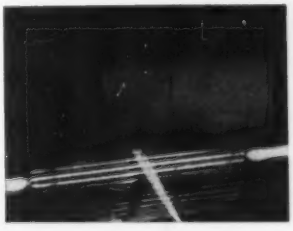
# coverings are right for your new stock

perience of your Armstrong man. Roll coverings and what can happen to them are his whole business. Chances are that he's already met—and solved—any roll covering problem that might confront you. That's why he's a good man to keep you from getting into roll covering difficulties, and equally good to get you out if you're already in.

The thing that helps your Armstrong man solve your roll covering problems is, of course, the wide range of covers in the Armstrong Line. There's cork for where cork is best. There's plain synthetic rubber in compounds of varying amounts of cushion for spots where rubber does the best job. And then there's rubber combined with cork for still other covering needs.

So call your Armstrong man and go over your roll covering problems with him. In most cases, he can be in your mill within 24 hours after you call or write Armstrong Cork Company, Textile Products Department, 8306 Arch Street, Lancaster, Pa. These products are available for export.

**THIS COT LAPS:** Moisture layers on fiber and cot contain electric charges that attract fiber to cot. When pressed together, the two moisture layers have the effect of adhering fibers to cot, causing them to lap up.



**THIS COT RESISTS LAPPING:** Certain electrolytes put in patented Accotex® Covers neutralize electric charges in moisture layer on cot. This cancels out the basic attraction of fiber to cot.

# ACCOTEX COTS

**ARMSTRONG COTS** are available in a full line of long-lasting, lap-resisting covers. Whether you spin cotton, wool, synthetics, or blends, your Armstrong representative can suggest the right Accotex Cover for your work.

# Still on Top!

with the many exclusive performance features that have made

## ECLIPSE BOBBIN HOLDERS

### THE FAVORITE!

The many exclusive features built into the Eclipse Bobbin Holder have made it the favorite of many leading textile organizations. They have found in actual operation that the Eclipse Bobbin Holder is outstanding in every way, and that the Eclipse reputation for basic quality and goodness is well deserved. If you are interested in modernizing your present plant equipment, you will surely want the finest—and the finest means Eclipse. Investigate today by writing or calling the Eclipse Machine Company direct.

### These Features Mean Eclipse Superiority

1. Completely replaces wooden skewers.
2. Ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents overrun and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

Export Sales: Bendix International Division, 72 Fifth Avenue, N. Y. 11, N. Y.

ECLIPSE MACHINE DIVISION of Bendix AVIATION CORPORATION
ELMIRA, NEW YORK

# Now...a High-Quality, Low-Cost Worsted Oil with Anti-Static Properties!

**New TWITCHELL OIL tested and used continuously in leading mills offers highest quality at low cost.**

*Another great Emery first . . . a top quality worsted oil that sells at an amazing low price! New Twitchell 7421 has gone through the toughest kind of tests in major mills throughout the country. This continuous mill use has* proved *the many unique advantages it offers you:*

**Static Control**—For integrated worsted operations, or where more than 1.5% oil is applied to "tops," Twitchell 7421 provides the static control required by high-speed processing.

**Emulsion Fluidity**—Water emulsions as high as 1:1 concentration are still fluid enough to be used in fine-spray application systems with ease.

**Emulsion Stability**—Emulsions, ranging from 1:9 (oil to water) up to 1:1, remain stable for weeks without any appreciable oil separation . . . Penetration and spreading are excellent.

**Resistance to Yellowing and Odor**—Repeated tests, both laboratory and plant, show that fabrics treated with Twitchell 7421 do not "heat-up," yellow, or develop odors on aging . . . particularly important for dry-finished fabrics.

**Excellent Scourability**—An average residual oil content of 0.3% is easily obtained in normal plant scouring, even after prolonged aging. This excellent scourability minimizes soap costs.

**Rust Preventive**—Emulsions of 7421 are effective inhibitors of corrosion and rust . . . reduce your service problems.

***Write for Technical Bulletin*** ⇨
***packed with important and useful information about Emery's new Worsted Oil. Mail coupon now.***

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**Emery Industries, Inc., Carew Tower Cincinnati 2, Ohio**

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**Branch Offices:**
3002 Woolworth Bldg., New York, N. Y.
221 N. La Salle St., Chicago 1, Ill.
401 N. Broad St., Philadelphia 8, Pa.
420 Market St., San Francisco 11, Calif.
187 Perry St., Lowell, Mass.

Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

**Emery Industries, Inc.**
**Dept. W-6 Carew Tower, Cincinnati 2, Ohio**

☐ I would like to run a mill trial of new Twitchell 7421 Worsted Oil as soon as possible.

☐ Please send the Technical Bulletin at once.

Name.....
Position.....
Firm.....
Address.....
City.....Zone.....State.....

# How Much Per Traveler-Pound?

The true test of a traveler is the number of pounds of top quality yarn which can be spun or twisted with it before it wears out. The more yarn produced, the lower your cost per traveler-pound.

Millmen who keep a sharp eye on production costs always judge travelers on this traveler-pound rating. And that's why so many choose Victor Travelers for spinning or twisting.

Victors consistently cost less per traveler-pound for two reasons. First, because there are no better travelers made, by any test of quality and uniformity. Second, because Victor Service Engineers, all mill-trained men, can quickly grasp your special problems, and come up with the right answer.

They can not only recommend the *right* traveler, but can often make other suggestions for improving your quality and production, —whether you are running conventional fibers, synthetics, or blends.

Plan now to talk to a Victor man about your costs per traveler-pound. Write, wire, or phone the nearest Victor office . . . for prompt service.

•

VICTOR Ring Travelers

**VICTOR RING TRAVELER COMPANY**

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 5-0891



For more information, write direct or use Reader Service post card.

*Dateline . . .*

**CIBA, TOMS RIVER, N. J.**

*This is the second in a series of pages published by Ciba to acquaint industry and the public at large with its expanding facilities for production and service.*

# *More than meets the eye...*

*"CIBA TOMS RIVER" will be the most modern plant of its kind. Upon completion, it will become a headquarters for Ciba's greatly expanding production of vat colors. Through these facilities, Ciba will help to meet the needs of dyers . . . and their customers in the textile and converting trades . . . for more dyes of a class that is distinguished for its exceptional fastness to light and washing.*

*In the photograph above, you see the present advanced stage of construction at this new Ciba plant in central New Jersey.*

*What cannot be seen among the brick, stone and steel is the key force that has been at work here from the beginning . . . the vision and energy that sparks the progress of* all *American enterprise. In this progress Ciba is proud to have its products and services in the fields of pharmaceuticals, plastics and auxiliaries, as well as dyestuffs, take a significant and growing part.*

*Measured in terms of more and better products for the markets Ciba serves . . . measured, too, in terms of more jobs, increasing purchasing power within the area, fine working conditions and constructive community relations . . . Ciba management believes that "Ciba Toms River" will be an asset to the national economy from which durable contributions may be expected to the nation's continued growth, prosperity and strength in peace and war.*

CIBA ... *builds to serve*

DYESTUFFS
RESEARCH
TECHNICAL SERVICE

CIBA COMPANY INC.,
627 Greenwich Street, New York 14, N. Y.
Boston Chicago Charlotte
Providence San Francisco Philadelphia

**FROM CIBA RESEARCH...**

# COPRANTINE* GREEN G *Conc.*

**LIGHT** *and* **WASH FAST**

**COPRANTINE GREEN G CONC.** is the economical base color for dark green shades on spun rayon piece goods aftertreated with Coprantex B and Urea Formaldehyde Resin.

*Reg. U. S. Pat. Off.

CIBA

CIBA COMPANY INC.
627 Greenwich Street, New York 14, N. Y.
Boston Chicago Charlotte
Providence San Francisco Philadelphia

HERE AGAIN

FAMOUS ORIGINAL

# "SAUPE" HIGH SPEED TRICOT MACHINE

This outstanding modern machine is the result of a lifetime of experience in the manufacture of "SAUPE" machines and is based on the practical knowledge of warp knitting. It is built to provide uninterrupted quality production at all times. The general construction of this distinctive machine endows it with the ability to stand up under continuous high speed schedules with an ease of operation that reflects, to the highest degree, true precision of all working parts. All parts are easily accessible and every possible safety precaution has been provided to give the American knitter a truly efficient machine.

Ever increasing demand for Tricot makes it positively in your interests to equip your mill with our "Saupe" high speed machine, to insure continuous uninterrupted quality production with least machine maintenance. We respectfully solicit your inquiries for any and all details. A demonstration may be arranged under actual mill conditions.

## "SAUPE" FEATURES

**QUICK STOP MECHANISM** that eliminates stop marks. Stops machine by new patented device.

**INCHING DEVICE** turns machine by electric power at slow speed enabling operator to see knitting elements.

**TAKE-UP ROLLER** assures uniform number of stitches per inch, regardless of increasing diameter of take-up roller.

**AUTOMATIC YARN FEEDING MECHANISM** insures unvarying uniformity of cloth without variations. No yarn pull-off, no strain on knitting elements.

**Sectional beams** up to 21" flange diameter.

**Solid frames. Broad cams.** Special alloy, lightweight cam levers and needle-bars. Guide-bar lifting mechanism. Machine takes chain-links 28 gauge on all gauges from 18 to 34 gauge without adjustments. Furnished with or without cut-presser-bar, in widths 84, 111 and 168 inches.

**SPEED** — "cruising" speed up to about 450 courses a minute or better, depending on material used.

**ERICK GROSS** *Corporation*

Telephone DUmont 4-4537

**64-72 WEST BROAD STREET**

**BERGENFIELD, NEW JERSEY**

# What's corn doing up in the rafters?

Basic research in corn helped put it up there... in the form of fibre glass insulation.

Certain types of dextrines are needed to produce the glass fibre. These particular dextrines are developed by research in corn. Corn fills a myriad of industrial needs . . . our continuing basic research in corn serves all American industry . . . serves you.

### Corn products in textiles

In the textile field starches, gums and dextrines provide superior formula ingredients for many textile processes. New techniques involving the use of corn products are being developed as part of a continuing research program at Corn Products Refining Company.

If you have a production problem why not check with Corn Products. A complete line of corn products for every purpose is available. Technical service is yours . . . no obligation, of course.

**CORN PRODUCTS REFINING COMPANY**
17 Battery Place, New York 4, N. Y.
*Manufacturers of*

**GLOBE® brand dextrines, gums** **GLOBE® brand starch** **EAGLE® brand corn starch**

# EMMONS *The Name in Loom Harness*

# EMMONS

**WEAVE ROOM EQUIPMENT**

## 85 Years of Constant Improvement!

Year by year for the greater part of a century, we have pioneered improvements in weave room equipment — with the constant aim of providing you with products that do their job better, last longer, give more value for your investment.

Wherever your plant, there's an Emmons "E" Man nearby. Call him in for advice on installations — and to supply Emmons heddles, heddle frames, reeds, slasher and striking combs, Run-Rite Plastic Sheaves (distributed by EMMONS in New England & Canada; manufactured by National Plastics, Inc.), and the rest of our complete line of weave room equipment.

***You'll find EMMONS "E" MEN at***

NEW JERSEY
HENDRIK VAN BREDERODE
311 Goodwin Ave., Midland Park
Phone Ridgewood 6-0760

LOS ANGELES, CAL.
E. G. PAULES
1762 West Vernon Ave.
Phone AX 3-6265

GREENSBORO, N. C.
R. F. COE
Box 221

CHICAGO, ILL.
ALBERT R. BREEN
80 E. Jackson Blvd.
Phone Harrison 7140

CHARLOTTE, N. C.
BRANCH PLANT
George Field, Mgr.
P. O. Box 2036, Phone 3-7503

GREENVILLE, S. C.
RALPH GOSSETT & COMPANY
8 South Church St.
Phone 3-6233

CANADA
IAN M. HALDANE CO.
P. O. Box 54
London, Ontario

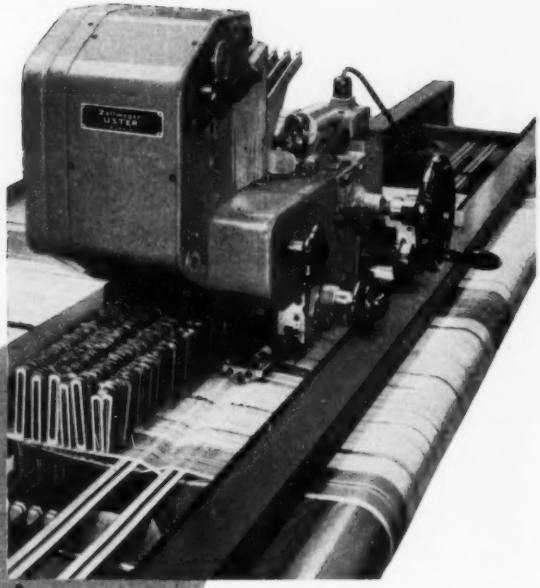
ATLANTA, GA.
ARTHUR HARRIS
P. O. Box 1982
Phone Main 2643

SAN ANTONIO, TEX.
W. H. GIBSON
1743 McKinley Ave.
Phone L2-9451

**Main Office and Plant**

**EMMONS LOOM HARNESS CO., Lawrence, Mass.**

# Uster Dropper Pinner



*Saves 3 hours labor 1 hour loom down-time per warp runout**

## Using Open Drop Wires?

Then the Uster Dropper Pinner will, in most cases, pay for itself in one year through savings in labor and loom down-time. Some mills report amortization in a few months.

## Using Closed Drop Wires?

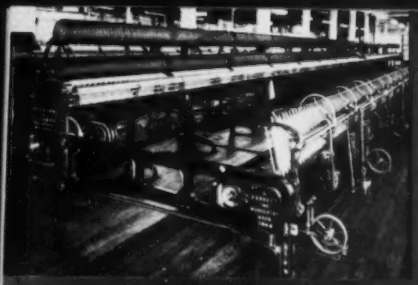
Then you are spending approximately $1.00 per thousand for drawing drop wires. The Uster Dropper Pinner will perform the same operation for a maximum of 21¢ . . . a 79% savings (6,000 end warp). We will be glad to make a survey of your plant and estimate the savings you can expect from the Uster Dropper Pinner.

The Uster Dropper Pinner is simple to operate and maintain . . . requires no unusual skill or knowledge. Operating automatically and without error, it performs equally well away from or at the loom.

*Figured on 8,000 ends. Savings increase sharply as the number of ends increases.

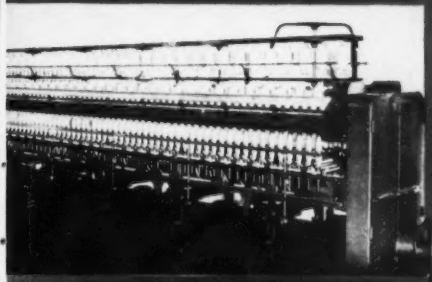
**USTER CORPORATION**

In Canada: Hugh Williams & Co., 47 Colborne St., Toronto, Ontario
2516 Wilkinson Blvd., Charlotte, N. C.
Sales Offices: Boston — Atlanta

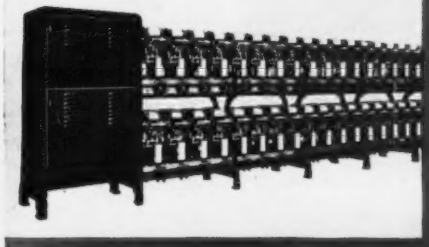


Johnson & Bassett Spinning Mule with Fafnir Ball Bearing equipped Spinning Spindles

Saco-Lowell Spinning Frames with Fafnir Cylinder Units



Whitin P-2 Spinning Frame with Fafnir equipped Tension Pulleys



U. S. Textile Saco-Lowell Combination Twister using Fafnir Piya-Seal Ball Bearings

# TURNING POINTS

## to increased production

## in Spinning and Twisting

If you stop to consider the great number of turning points on machines for spinning and twisting, you'll understand how bearings with low co-efficients of friction can make these machines more productive. Comparative tests for example, have shown that a frame equipped with Fafnir ball bearings was ready to doff fully five minutes before the plain bearing frames. In combination with the reduction of lost time for servicing and repairs, this speed-up meant many more productive hours.

In spinning and twisting there are more varieties of Fafnir ball bearings and ball bearing units used than in any other process. They are universally known for their simple, quick installation on all types of machines. Many of these units have the famous Fafnir Wide Inner Ring Ball Bearing with self-locking collar . . . easiest of all to install.

Your most economical way to get increased production may be represented by Fafnir Textile Ball Bearing Units. Why not send for a descriptive catalog? The Fafnir Bearing Company, New Britain, Conn.

**A few of the applications incorporating FAFNIR BALL BEARINGS for Spinning and Twisting**

- Back Idlers with Fafnir Piya-Seal Ball Bearings
- Cylinder Bearing Replacement Units
- Upstroke Twister Idlers
- Tape Tension Pulleys
- Spindles (spinning and twisting)
- Cam Shafts
- Jack or Intermediate Gear
- Take-up Rolls
- Cross Shafts

# FAFNIR

## BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

(Advertisement)

WESTON – TAG

# Thermometers

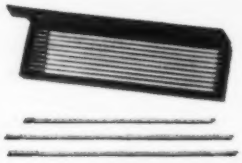
## in all forms—ranges—stem lengths—connections

Whether your requirement calls for certified laboratory thermometers . . . or rugged all-metal industrial types . . . or thermometers for remote reading . . . you'll find *exactly* what you require in the Weston-TAG line—*the most comprehensive line of quality thermometers ever offered by ONE manufacturer.* Literature on request. WESTON Electrical Instrument Corporation, 617 Frelinghuysen Avenue, Newark 5, New Jersey.

### Laboratory

**ALL-METAL**

—have readable, dial-type scales and corrosion-resisting stainless steel stems—stem lengths from 2" to 24"—ranges from low as −100°F. to high as 1000°F.—accuracy ½ of 1% of thermometer range.



**GLASS**

—certified sets of ASTM Testing thermometers with overlapping ranges in protective case. Ranges from −36°F. to high as 760°F. Also precision and standard etched stem thermometers for general testing.

### Industrial

**ALL-METAL**

—provide unmatched readability and durability—accuracy within 1% of thermometer range. Available in all types, ranges and stem lengths (2½" to 72") for all requirements.

**GLASS (Metal Case)**

—available in all forms, all ranges, stem lengths and connections. Accuracy within one scale division. Also submarine types, metal and cupcase thermometers.

### Remote Reading

**ELECTRICAL**

—resistor bulb sensing element permits mounting indicator any distance away from point of measurement. *Multiple* remote readings also possible by use of selector switch and several bulbs.

**PRESSURE ACTUATED**

—for remote reading, in 5, 6 and 8" dial sizes. Ranges from low as −325°F. to high as 1000°F. Accuracy one scale division unaffected by vibration or severe shock. Cases of iron, brass, or plastic.

**WESTON** *Temperature Instruments*

**— TO INDICATE — RECORD — CONTROL**

9413

## "TAG" Automatic Controllers Record Temperature, Pressure

Pressure, vacuum or temperature can be automatically regulated and recorded with the Pneumatic Recorder-Controllers produced by TAGliabue Instruments Div., Dept. 67, Weston Electrical Instrument Corp., Newark 5, N. J. These devices maintain conditions for which they are set by varying control line air pressure, which operates a diaphragm valve to regulate flow of fluid (gas, steam, liquid) to the equipment being controlled. At the same time, the instrument continuously records actual temperature or pressure on a circular chart.

Operating on an air supply of 18 p.s.i., TAG Recorder-Controllers handle temperatures between −100°F. and 1000°F., vacuum as great as 30" mercury, or pressures up to 7500 p.s.i.

## "TAG" Temperature Recorders Chart from −300° to +1000°F.

Accurate written records of varying temperatures are charted by the Temperature Recorders produced by TAGliabue Instruments Div., Dept. 67, Weston Electrical Instrument Corp., Newark 5, N. J. Temperatures as low as −300°F. or as high as +1000°F. can be recorded with these versatile instruments.

Various types of actuations in TAG Temperature Recorders achieve scale expansion for utmost precision over the working ranges. Interchangeable tube systems are laboratory calibrated at the factory. A safety link provides over-range protection. Details are given in Catalog 1210.

## "TAG" Pneumatic Controllers Govern Temperature, Pressure

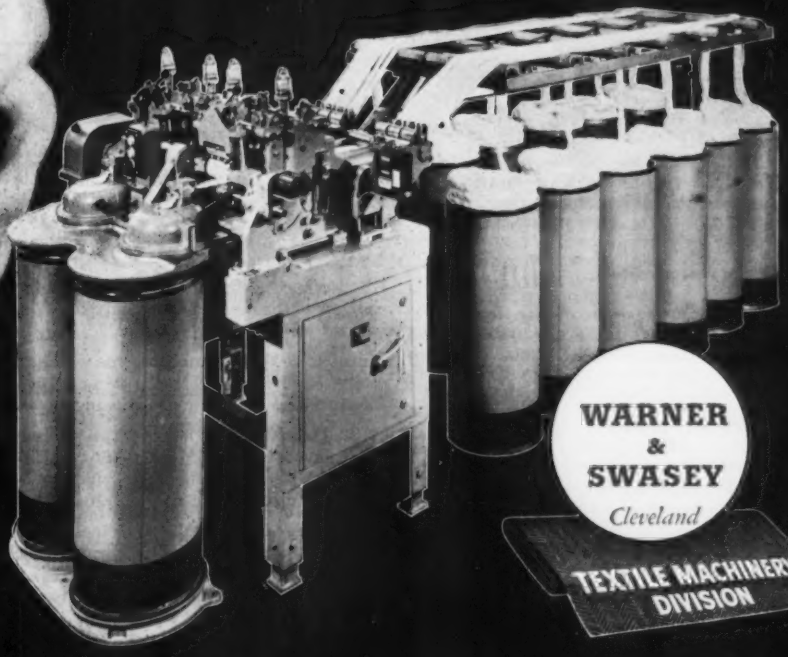
Pressure, vacuum or temperature can be accurately regulated by the Pneumatic Controllers engineered by TAGliabue Instruments Div., Dept. 67, Weston Electrical Instrument Corp., Newark 5, N. J. These trustworthy devices maintain the conditions for which they are set by varying air pressure in a control line, which in turn operates a diaphragm valve to increase or decrease the flow of fluid (air, gas, steam, liquid) to the equipment being controlled.

Operating on an air supply of 18 p.s.i. pressure, TAG controllers handle temperatures between −100°F. and 1000°F., or pressures between 30" vacuum and 7500 p.s.i.

# Pin Drafter

BY WARNER & SWASEY

for the ultimate
in drawing profits



WARNER & SWASEY
*Cleveland*
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

# HARNESSING HEAT FOR ALL INDUSTRY

Heat is one of man's most useful servants. It enables him to separate gasoline from crude oil . . . to cook food . . . to refine steel from raw ore and roll it into mile-long sheets . . . to mold plastics into complex shapes. But to do these and countless other jobs, heat must be applied in the correct amounts . . . to obtain critical temperature values.

Forward-looking research and production men realized some years ago that "rule of thumb" operation was entirely inadequate for complex processes. They needed facts obtainable only from automatic measurement . . . performance possible only through automatic control.

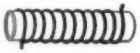
Honeywell has consistently led the way toward meeting the ever-increasing demands for sensitive, precise temperature instrumentation. Continuing research and field experience have developed sensing elements which cover the full range of industrial temperatures . . . instruments which provide any desired degree of flexibility and accuracy . . . and automatic controls which can regulate any measurable production process.

## sensing elements

***thermocouples***

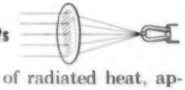
The most versatile of temperature elements, supplied for temperatures from minus 300° to plus 2800°F.

***resistance thermometers***



a highly accurate means of detecting temperatures from sub-zero to 300°F. . . . especially useful for narrow temperature spans.

***RADIAMATIC elements***



measure by means of radiated heat, applicable to moving objects . . . to direct measurement of work temperature . . . to extremely high ranges and for many jobs impossible with any other element.

***thermometer bulbs***

rugged, sensitive elements for moderate temperatures in conjunction with economical instrument types.

## instruments

Working with these sensing elements is a complete family of instruments, which afford a broad choice of characteristics to suit the needs of individual temperature measuring assignments. *ElectroniK* indicators, circular chart and strip chart recorders afford the peak in performance . . . featuring continuous-balance, high-speed electronic measurement. *Pyr-O-Vane* millivoltmeter instruments fit many applications where simple, accurate indication and control are essential, but where a continuous temperature record is not required. Brown Thermometers are ideal for recording and controlling temperatures within the range of pressure-filled elements . . . are often supplied as multiple-pen instruments which combine temperature and pressure on one chart.

# Modern processes *precise*

## controls

Electric and pneumatic controls, from the simplest to the most complex, have been developed to handle any controllable process.

With *Pyr-O-Vane* instruments you can have electric control of either the two-position, three-position or time-proportioning types.

With Thermometers, electric two-position or pneumatic control of the on-off or proportioning types, and integrally built time-pattern control of the cam-operated type.

With *ElectroniK* instruments, the choice covers practically any kind of pneumatic or electric control, including the most advanced designs that can "think ahead" even better than a human operator . . . plus two-position, three-position and proportional controls (either electric or pneumatic) and the most flexible program controls.

**STABILIZED FABRIC** *of desired hand is produced by this narrow fabric finishing range, where temperatures in the tenter housing and resin curing oven are accurately controlled by* **ElectroniK** *instruments.*

# in the textile industry demand

# *temperature control*

TEMPERATURE is the common denominator of efficient operation throughout the textile industry. It affects the quality of heat setting, bleaching, dyeing, resin curing, drying—and practically every other major process. And it determines operating costs as well, because temperature is directly related to the amount of steam, reagent, or production time required to accomplish the desired results.

Working in close cooperation with textile men, Honeywell has engineered custom-built temperature control systems for the most important textile processes. The most effective instruments . . . sensing elements . . . types of control . . . all are combined in "packaged" systems, readily applied to specific processes. These systems embody the most modern techniques, often including time-pattern control which automatically conducts the process through predetermined temperature programs without human assistance.

Wherever temperature enters your processing picture, it will pay you to look to Honeywell—for dependable, accurate control and the engineering know-how essential to successful application. Our local engineering representative is well qualified to make specific recommendations for your plant. Call him today . . . he is as near as your phone.

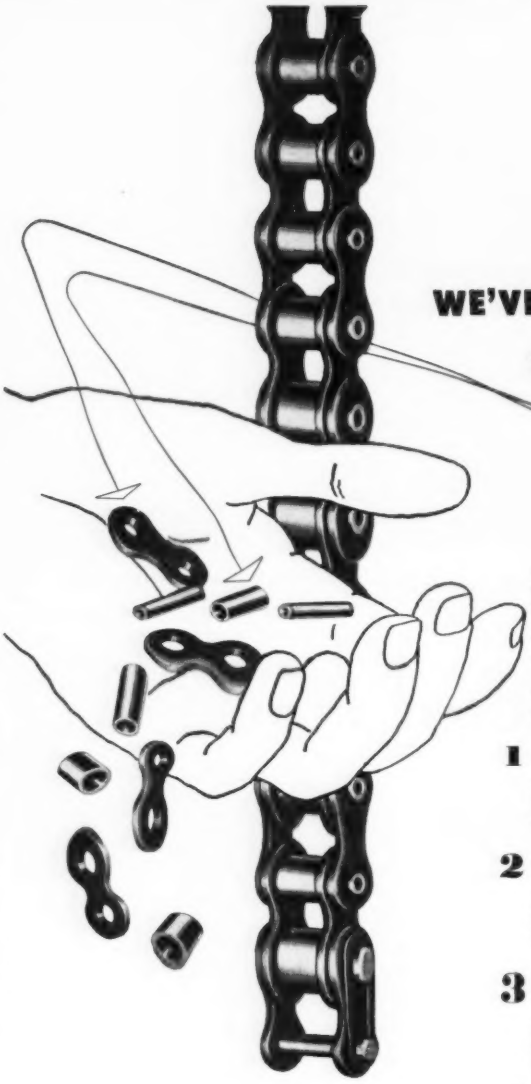
MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Avenue, Philadelphia 44, Penna.

MINNEAPOLIS
**Honeywell**
BROWN INSTRUMENTS

*First in Controls*

● *Important Reference Data*

Write for Catalog 51-1, "Furnace and Oven Controls" and for Data Sheets on specific temperature controls for textile processes.



# WE'VE SPILLED THE WORKS...

. . . to show you why you can get longer chain life . . . eliminate production losses . . . with Baldwin-Rex Roller Chains on your machines.

Here are the "works" . . . the parts that make up the Baldwin-Rex Pin and Roller link. The photograph can't show you the high quality materials that go into these parts. BUT, it does illustrate some of the manufacturing "extras" that make Baldwin-Rex *better!*

**1 NOTE THE BEVEL**

on side plate edges . . . this assures better and smoother engagement of the chain with sprocket teeth in case of misalignment . . . no danger of cuts from sharp edges.

**2 NOTE THE BUSHINGS**

. . . they're precision-made of low carbon alloy steel with surfaces case-hardened *inside and out* It means longer life of bearing surfaces . . longer life and lower operating costs to you.

**3 NOTE THE ROLLERS**

. . . precision made from medium carbon alloy steel, heat treated and drawn for toughness to withstand impact at high speeds and the great pressure when engaging sprocket teeth.

**4 NOTE THE PINS**

. . . particularly the color difference at the ends. That's because they're copper plated to assure a softer end for proper, secure riveting while retaining a file-hard, heat treated bearing surface for long life.

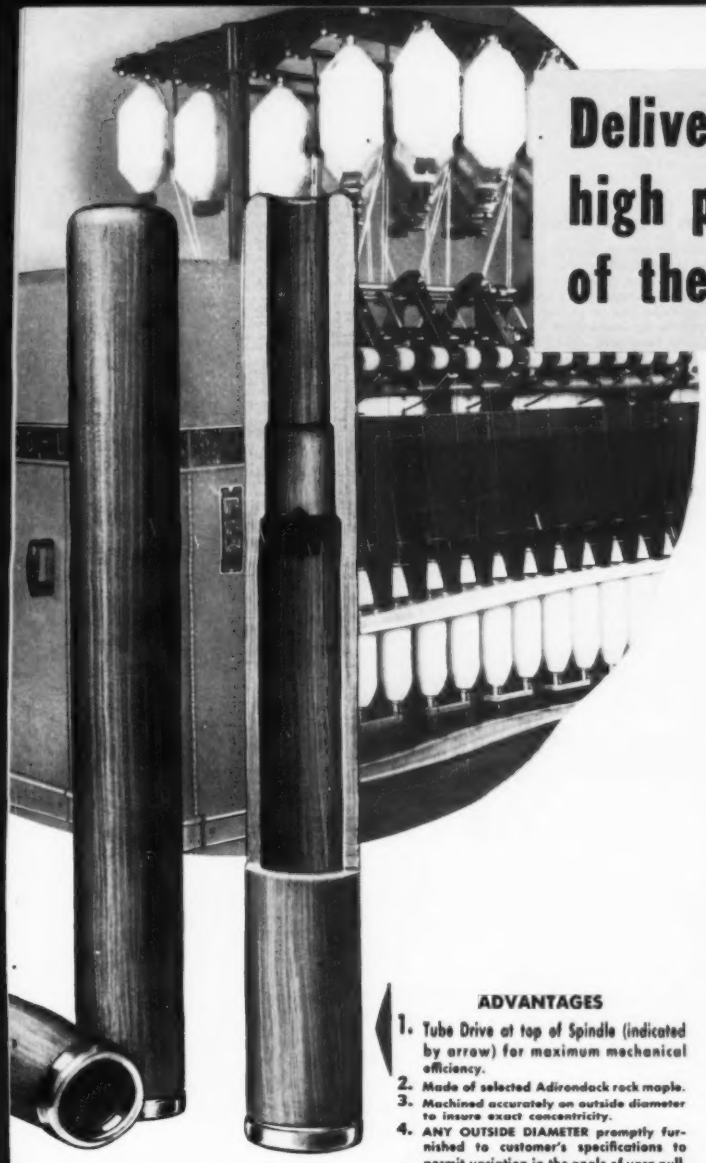
These are but a few of the many points that make Baldwin-Rex Roller Chains your best bet for longer life . . . lower cost service. Your Baldwin-Rex Field Sales Engineer will be happy to discuss the complete story with you and assist you with your chain selection and application problems. For the Baldwin-Rex quality story, write for your copy of Bulletin No. 51-1. Baldwin-Duckworth Division of Chain Belt Company, 346 Plainfield St., Springfield 2, Mass.

**BALDWIN-REX**
**ROLLER CHAINS**

**BALDWIN-DUCKWORTH**
**DIVISION OF CHAIN BELT COMPANY**

*a complete line from ¼ to 2½-inch pitch*

# Delivering all the high productivity of the Gwaltney Frame



*U S Wooden Spinning Tubes for use with the patented "New Era" Spindles.*

## Wooden Tubes by US

Designed for the SACO-LOWELL GWALTNEY SPINNING FRAME

**ADVANTAGES**

1. Tube Drive at top of Spindle (indicated by arrow) for maximum mechanical efficiency.
2. Made of selected Adirondack rock maple.
3. Machined accurately on outside diameter to insure exact concentricity.
4. ANY OUTSIDE DIAMETER promptly furnished to customer's specifications to permit variation in the angle of yarn pull.
5. Maximum durability. Made to withstand rough handling and all usual methods of conditioning.
6. Heavy gauge brass shields protect base.
7. Long lasting glass-smooth finish.

U S congratulates SACO-LOWELL on its notable new improvement in spinning machinery. A "partner in progress", U S is licensed to manufacture wooden tubes for use on the sleeve type New Era spindles which are standard on the Gwaltney Frame.

Let the 95-year experience of U S Bobbin & Shuttle Co. as yarn carrier specialists work to your advantage when you specify spinning tubes for Saco-Lowell SG-1 frames. Any U S sales representative will give you detailed information.

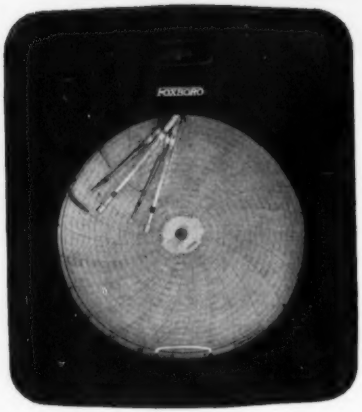
## U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. PROVIDENCE, R. I. PHILADELPHIA, PA. GREENVILLE, S. C. CHARLOTTE, N. C. MINNEAPOLIS, MINN.

LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.

DALLAS: O. T. Daniel, Textile Supply Co.

CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.




**WET AND DRY BULB INSTRUMENTS**

These Foxboro instruments give separate wet and dry bulb records on the same chart . . . in dry bulb ranges from 32°F. to 212°F. They are exceptionally accurate and stable. Bulbs can be placed up to 200 feet from the instrument. Available as recorders, or air operated (Model 40) and electric (Rotax) controllers, including multi-zone and time-humidity controllers.

**DIRECT-READING DEW POINT INSTRUMENTS**

Foxboro recently introduced the first simple, continuous dew point measuring instruments for industrial use. Their patented humidity sensitive element, the "Dewcel", requires no water box or moving air. Accuracy is unimpaired by dust or lint. Foxboro recording and controlling instruments, used with the "Dewcel", give direct readings from —20°F. to 160°F. dewpoint, at dry bulb temperatures up to 220°F. Readings easily converted to absolute or relative humidity. Foxboro instruments for dew point include liquid expansion type and electronic type recorders and controllers . . . with either pneumatic or electric control action. The Multi-Record Dynalog* for dew point provides up to 6 records on a single round chart.

*Reg. U. S. Pat. Off.

# better measurement and control of humidity

**DIRECT-READING RELATIVE HUMIDITY INSTRUMENTS**

Direct-reading relative humidity instruments, in both hair and membrane (gold-beater's skin) types. Sensitive, accurate and reliable.

These Foxboro hygroscopic instruments are designed to operate in temperatures up to 140°F. They are available for recording (including the portable model shown here), and controlling (pneumatic M-40, or electric *Rotax*, operated).

Combination temperature and relative humidity recorders (0—100°F and 0—100°R.H.) are shipped from stock.

Ever since it introduced the first successful long-distance wet-and-dry bulb psychrometer, Foxboro has pioneered in the development of new and improved methods for the measurement and control of humidity. In its knowledge of textile process requirements, and its complete line of better-engineered instruments, there's more than likely the ideal solution to your own problem.

Why not write for complete information, or talk it over with a Foxboro Engineer, now? **The Foxboro Company, 846 Neponset Ave., Foxboro, Mass., U. S. A.**

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FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

# Here's a Peach of a Picker!

No doubt about it—this red-headed Dayton Super Picker is the best of the picker crop! In durability, for instance, the Super Picker outlasts other makes, often by as much as 2 to 1. Think what that means in terms of less down-time and more cloth production! And shuttles last longer, because the Dayton Super Picker runs cooler.

The flared bottom makes picker stick easier to apply . . . narrow back permits free non-wear on lay-in strap . . . and rounded front edges eliminate hanging filling.

Give the Super Picker a trial on your high-speed or standard speed looms. See for yourself, right in your own mill, how it will out-pick any ordinary picker you can buy! Ask your salesman, or: Dayton Rubber Co., Textile Div., Woodside Bldg., Greenville, S. C.

**FOR LOW COST EFFICIENCY . . .**

The Dayton Thorobred Picker! Patented symmetrical loop construction holds picker in correct contact position. Picker stick hole is designed for correct shuttle contact, eliminates striking at an angle. Performs with top efficiency, at low cost.

**Dayton Rubber**

*Since 1905*

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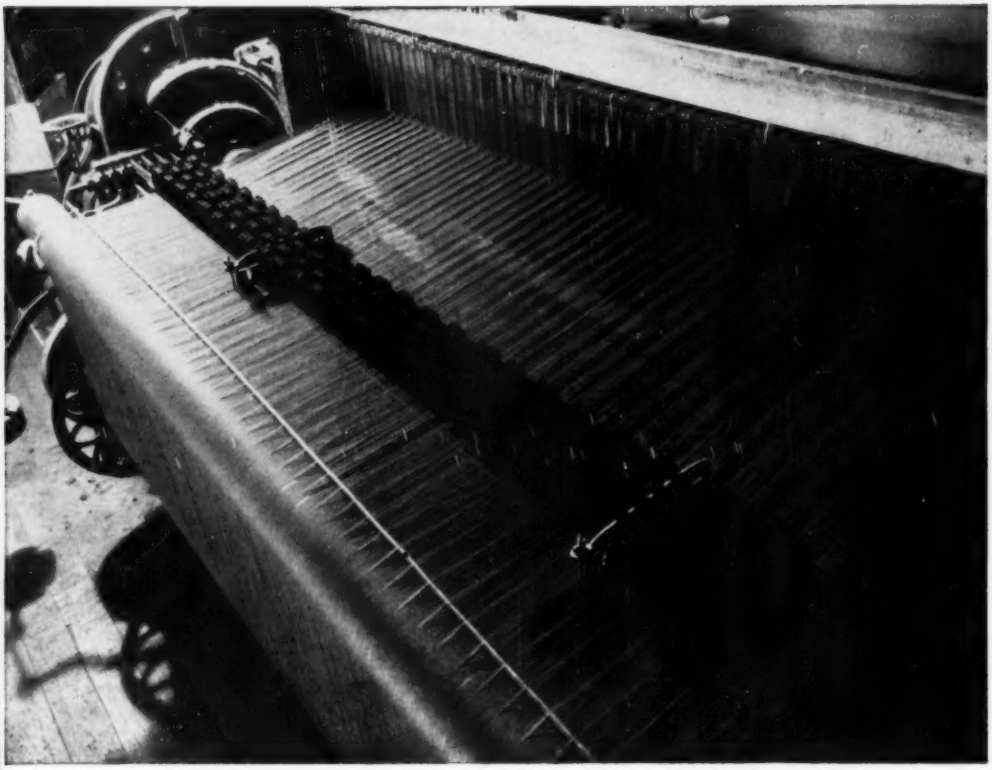

# STAINLESS STEEL IS not restricted HERE

Without "red tape" or government approval of any kind, you can obtain heddles and reeds made of Armco Stainless Steel wire.

The reason is that Type 430 Stainless Steel, a chromium grade, is not subject to government restrictions imposed on the popular 18-8 series and other chromium-nickel grades. Type 430 stainless has proved satisfactory for many years in textile heddles and reeds.

**LESS SCUM**

"They accumulate less scum, and can be cleaned much faster and easier than parts made of plated wire," according to a manufacturer of "synthetics."

"Cleaners have no harmful effect on the surface of stainless steel," he said. "This certainly simplifies our clean-up work and helps us keep costs down."

Yarns and threads get off to a healthy start when heddles and reeds are made of Armco Stainless Steel. You needn't worry about rust spots or dirt-embedded knots — a common and costly problem with ordinary heddles and reeds.

With this alloy of iron and chromium, reeds are less subject to "dent" breakage.

Lower cleaning and maintenance costs all along the line are the story. Get this cost-cutting information first-hand from fabricators who use Armco Stainless Steels for heddles and reeds. If you do not know the names of leading suppliers, write us. We'll be glad to put you in touch with them.

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**PRODUCTS CAN BE**
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**BY THEIR BEARINGS**

All bearings are designed to eliminate costly friction . . . but only SEALMASTERS can offer the many *extra advantages* that SEALMASTERS' exclusive combination of features gives to your product.

SEALMASTER users report smoother machine operation—with reduced power consumption and minimum maintenance. The proved, all-around efficiency of SEALMASTER Ball Bearing Units is the best assurance of long life and dependable service under even the most difficult conditions.

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BALL BEARING
UNITS

**1. PERMANENTLY SEALED**
Felt-lined steel flinger, rotating in labyrinth, excludes dirt and retains proper amount of lubricant.

**2. SELF-ALIGNING**
Bearing unit, with seals independent of housing, can align itself in any direction without seal distortion.

**3. PRE-LUBRICATED**
Before shipment from the SealMaster factory, the bearing chamber is filled with proper amount of lubricant.

**4. NO HOUSING WEAR**
Patented locking pin and dimple prevent rotation of outer race in housing. This eliminates housing wear, permits shaft alignment and positions unit for relubrication.

**5. FLOATING RETAINER**
Ball retainer is designed to float on ground inner surface of outer race. Traps lubricant, prevents churning.

**6. HOUSING DESIGN**
SealMaster's cast housings combine rigid, one-piece construction with smooth streamlined appearance.

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A DIVISION OF STEPHENS-ADAMSON MFG. COMPANY

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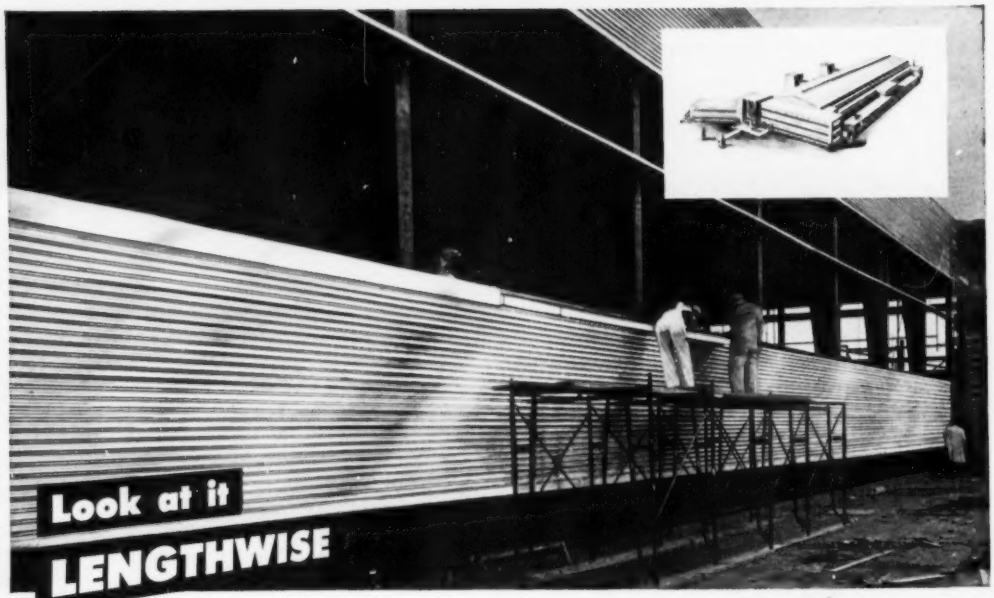


## ...Longer Life, Lower Maintenance!

When Hytron, Division of CBS, planned its new Danvers, Mass., plant, architects and clients agreed on Reynolds *Lifetime* Aluminum Industrial Corrugated for siding. Low initial cost, long life and lowest maintenance were practical factors. But the architects—R. P. Systems Engineers—sought a design effect, too. So they specified *horizontal* application. General contractor was L. R. Porter Construction Company.

Both as siding and as roofing (vertically applied) this material saves substantially on labor costs. It is light weight, easy to handle... workmen like it. In addition, aluminum reflects radiant heat ...keeps interiors up to 15° cooler in summer and warmer in winter.

Plan your next construction with this high-strength aluminum that never rusts, resists corrosion.

**Call Reynolds for literature and technical assistance...offices in principal cities. Check your classified phone book for our listing under "Building Materials," or write to Reynolds Metals Company, Building Products Division, 2021 South Ninth Street, Louisville 1, Kentucky.**

**Specifications:**

Thickness .032"
Weight 56 lbs. per square
Corrugations ⅞" deep, 2-⅔" crown to crown
Roofing width 35", coverage 32"
Siding width 33-¾", coverage 32"
Lengths 5', 6', 7', 9', 10', 11', 12'

REYNOLDS METALS

**Military demands for aluminum limit supply, but Reynolds is rapidly expanding aluminum capacity. Rated orders receive priority handling.**

# REYNOLDS *Lifetime* ALUMINUM INDUSTRIAL CORRUGATED

Tune in every Week..."The Kate Smith Evening Hour" on Television—NBC Network

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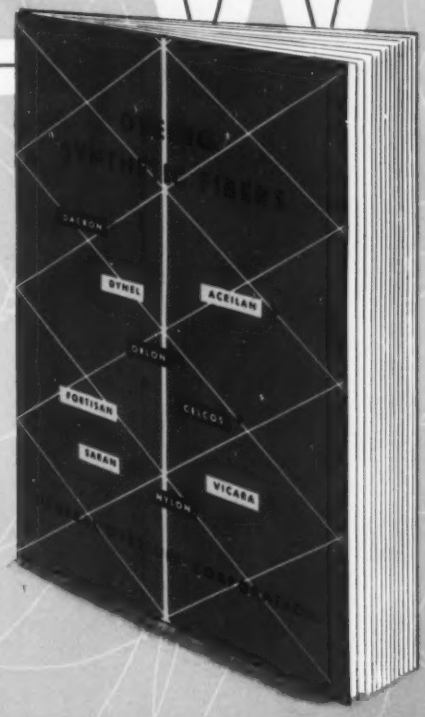


*a revised Edition of*

# DYEING SYNTHETIC FIBERS

**This is our original brochure *Dyeing Synthetic Fibers* brought up to date. The text includes new data and techniques developed since the last publication.**

**So much work is in progress on the dyeing of the new synthetic fibers that a report of the latest developments is valuable and timely. This brochure contains G.D.C.'s up-to-the-minute recommendations.**

**You can obtain your copy from our nearest sales office.**

**GENERAL DYESTUFF CORPORATION**

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# Want to buy some custom-built yarn?

Grove Silk Company in Dunmore, Pa., adds an important "extra" to your yarn. Whether they're throwing for weaving, full fashion or tricot knitting, they know how to put it in a special quality mood.

Part of the trick is in the air conditioning. They have a Carrier refrigeration system. That gives them *absolute* control of both temperature and humidity, and they can throw your yarn in the conditions ideal for your operation.

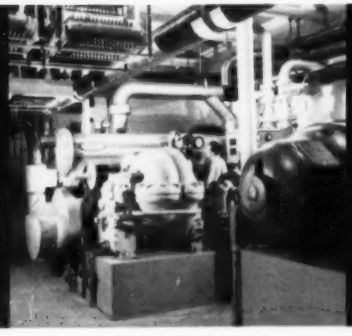
Experience shows that when weavers or knitters have the same absolute control over conditions in their mills, plant efficiencies are at their maximum. Because without temperature fluctuations, machines hold their tolerances.

It takes a Carrier system with refrigeration to give you this control. In other systems, like an evaporative cooling job, inside temperatures vary with outside weather conditions.

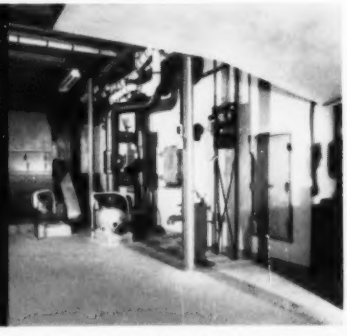
So if you're throwing, weaving or knitting, Carrier refrigeration is the soundest investment you can make. It'll bring up the quality of your cloth, reduce expensive down-time. It's a fact that it can pay for itself in a short time. Write, and we'll tell you how your present system can be switched over. Carrier Corporation, Syracuse, N. Y. . . . *for 50 years—the people who know air conditioning best.*

Carrier

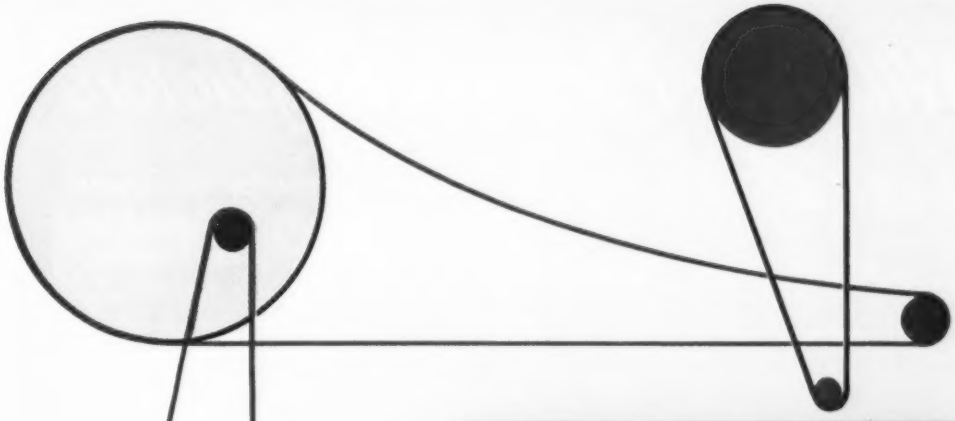
AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



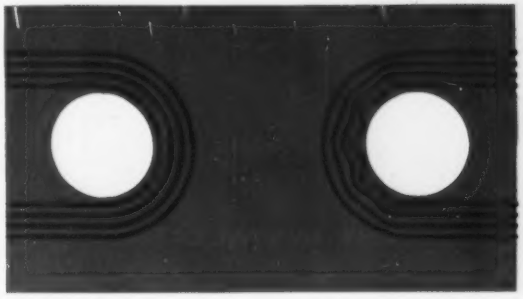
At Grove Silk Company, this Carrier Centrifugal Refrigerating Machine chills water for the air conditioning, assures absolute control of mill conditions.



Chilled water is pumped to eight different dehumidifiers to provide individual zone control in different parts of the mill.



# MORE PULL IN EACH PLY



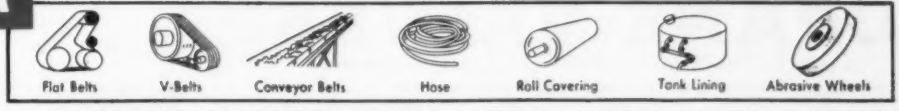
## *Condor* COMPENSATED BELT

What causes outer ply rupture and fastener failure? It's shown in the sketch above. With ordinary belts the inner plies loaf around the pulley while the outer plies do the work. This unequal ply-loading is the cause of most transmission belt failures • In Condor Compensated each ply pulls its share of the load, because R/M engineers have found a way to equalize the ply stresses. This principle makes Condor Compensated Belts outlast ordinary belts and increase fastener life on some drives by as much as three or four times • Bulletin 6808J describes other advantages. Write for it . . . or better still, let your R/M Distributor tell you about it.

RM

MANHATTAN RUBBER DIVISION—PASSAIC, NEW JERSEY

**RAYBESTOS-MANHATTAN, INC.**




Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Packings • Brake Linings • Brake Blocks
Clutch Facings • Asbestos Textiles • Sintered Metal Parts • Bowling Balls

# Will Your Pressure Regulators Last 25 Years?

## ...on Molding Press Service for instance

THE INSTALLATION

Crane Brass Pressure Regulators on steam lines to rubber molding presses; Dryden Rubber Division, Sheller Mfg. Corp., Chicago. 225 units in service.

## VALVE SERVICE RATINGS

| | |
|---|---|
| FEATURES: | Equally good on steam or air |
| SUITABILITY: | Steady outlet pressure - no drift |
| MAINTENANCE COST: | Routine servicing only |
| SERVICE LIFE: | Many installed more than 25 years — Still O.K. |
| OPERATING RESULTS: | Fully automatic steam control at lowest cost |
| PRICE: | Good Buy - has no equal |
| AVAILABILITY: | Stock item in Crane Line |

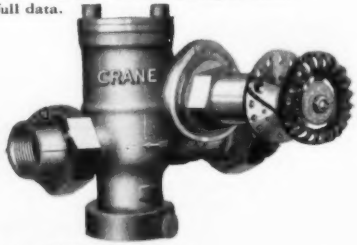
## THE HISTORY

Steam generated at 130 psi is reduced through individual regulators on molding presses. Pressure used at machines is 60 to 100 psi depending on work. Features of regulator service needed most are: (1) non-fluctuating outlet pressure automatically maintained within close regulation; (2) easy adjustment by press operator to specified pressure for given work.

More than 25 years ago the plant standardized on Crane Regulators, a total of 225 being in use today. Many are the original installations, still delivering desired outlet pressure. Records for all regulators, regardless of age, show no maintenance cost other than prescribed simple routine servicing. On old models of the Crane 960 regulator, after prolonged service, this includes occasional regrinding of seats.

## THE VALVE

Crane No. 960 Brass Pressure Regulators reduce steam or air pressures up to 250 psi, to within 80% of inlet pressure. Factory pre-set to operate within any of 4 ranges from 1 to 200 psi, with easily selected service pressure within set range. Precision made; fully automatic; highly dependable, even under reasonable fluctuation of inlet pressure. All wearing parts renewable. See your Crane Catalog or Crane Representative for full data.




*The Complete Crane Line Meets All Valve Needs. That's Why—*

**More Crane Valves Are Used Than Any Other Make!**

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**VALVES • FITTINGS • PIPE • PLUMBING • HEATING**

# PRODUCTION & QUALITY OF GARNETTS CONTROLLED BY

## STERLING SPEED-TROL!

*Maximum production and uniform quality in garnetting various types of threads and clips under varying atmospheric conditions require accurate, positive adjustment and control of speed. To achieve these results we equipped a number of our garnetts with Speed-Trol variable speed electric power drives, and they are giving satisfactory performance, reports J. W. Powischill, Chief Engineer, Textile Division, Proctor & Schwartz, Inc., Philadelphia.*

### STERLING SPEED-TROL GIVES YOU VARIABLE SPEED CONTROL NECESSARY FOR:

**EQUIPMENT ADAPTATION TO:** Sequence synchronization—operators' abilities—load variations due to differences in quantity, quality, weight, size, tension, hardness or shape of material to be processed, machined, conveyed, blended, mixed, etc.

**PROCESS CONTROL OF:** Temperature—viscosity—level—pressure—flow—etc.

**TIME CONTROL OF:** Baking—drying—heating—cooking—pasteurizing—soaking—chemical action—etc.

With Speed-Trol you get the maximum in production, plant efficiency, quality and profit.

**OTHER STERLING ELECTRIC POWER DRIVES:**

- **STERLING SLO-SPEED (GEARED) MOTORS**
- **STERLING KLOSD AND KLOSD-TITE (NORMAL SPEED) MOTORS**

***DRIP-PROOF • SPLASH-PROOF • TOTALLY ENCLOSED***

*70 ILLUSTRATIONS* showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. A 109

# STERLING ELECTRIC MOTORS

Plants: New York City 51; Van Wert, Ohio; Los Angeles 22; Hamilton, Canada; Santiago, Chile.

Offices and distributors in all principal cities.

 For more information, write direct or use Reader Service post card. 

# "Tycol Acylkup keeps bearings running cool... does not emulsify with water"

That's right! Tycol Acylkup Grease withstands heavy unit pressures . . . resists emulsification with water. It is easily applied by grease gun or central system.

Further, Tycol Acylkup Grease contains a high grade paraffin base cylinder oil that steps up bearing efficiency and assures increased bearing life. Protection against wear is long-lasting.

Your nearest Tide Water Associated Office will be glad to give you complete information. Call or wire today.

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**TIDE WATER ASSOCIATED OIL COMPANY**

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# STAYS WHITER because it STARTS WHITER!

**INTERIOR SURFACES STAY CLEANER . . LONGER . . WITH KEM SAVE-LITE . . THE WHITER WHITE!**

How long white paint *stays* white—and *how* white it stays—depends, in part, on *how white it is to start with.*

Sherwin-Williams KEM SAVE-LITE Finishes for mill interiors cut upkeep costs because their brilliant whiteness both starts higher and stays higher in light reflection value. These facts are borne out not only in laboratory tests, but in year-after-year experience in leading textile mills the country over.

Test KEM SAVE-LITE for yourself against any conventional mill white finish. See the difference—in initial whiteness—in hiding power—in greater covering capacity. Call your Sherwin-Williams representative for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, Ohio. (Division office, Charlotte, N. C.)

**Types to Meet Varying Requirements**

Sherwin-Williams Save-Lite is supplied in several types to meet varying operating conditions, both in oil type (Save-Lite) and synthetic (Kem Save-Lite). Gloss finish gives extreme ease of cleaning; Eg-Shel greatest diffusion and reflection of light. Fume and moisture-resisting types give added resistance where chemical fumes, moisture and heat are encountered.

**SHERWIN-WILLIAMS**

**INDUSTRIAL MAINTENANCE FINISHES**

**SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES**

**MILL VILLAGE PAINTS**

 For more information, write direct or use Reader Service post card.

Drive at pug mill of Gladding McBean & Co. Safety guard removed for photographic purposes

**The Problem:**

The drive at the pug mill at the Gladding McBean & Company brick plant, Pittsburg, California, is so vital to their production it cannot be out of service for any length of time. It must operate under dusty conditions which induce slippage in ordinary belts. It must be able to take very severe pulsating loads.

**The Solution:**

With the installation of rugged BWH Bull Dog V-Belts the problems and difficulties were completely overcome.

* * *

Do you have a drive or V-Belt problem? Call us for Bull Dog V-Belts and a space saving, dependable, trouble-free installation.

*Another Quality Product of*

BWH DEPENDABLE RUGGEDNESS

**BOSTON WOVEN HOSE & RUBBER COMPANY**

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# Standafin 77

stands the test of **Time** on

# WHITES

HERE'S A FINISH for milady's undergarments, non-irritating to the most delicate skin, that does not discolor whites and pastels even under long storage.

On rayon, acetate and nylon fabrics Standafin 77 imparts a pleasing, durable finish having excellent drape and nonslip properties. (Interesting effects are also obtained on spun fabrics.)

Standafin 77 is a water soluble resin easily applied on conventional finishing equipment. No curing is necessary.

Our technical staff has facts and figures to prove that Standafin 77 stands the test of time . . . fabrics finished with Standafin 77 remain white indefinitely during mill or shelf storage.

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**Manufacturer of: Pyrotex — Standapol* — Stanteosine — Retardine* — Standafin — Stantex***

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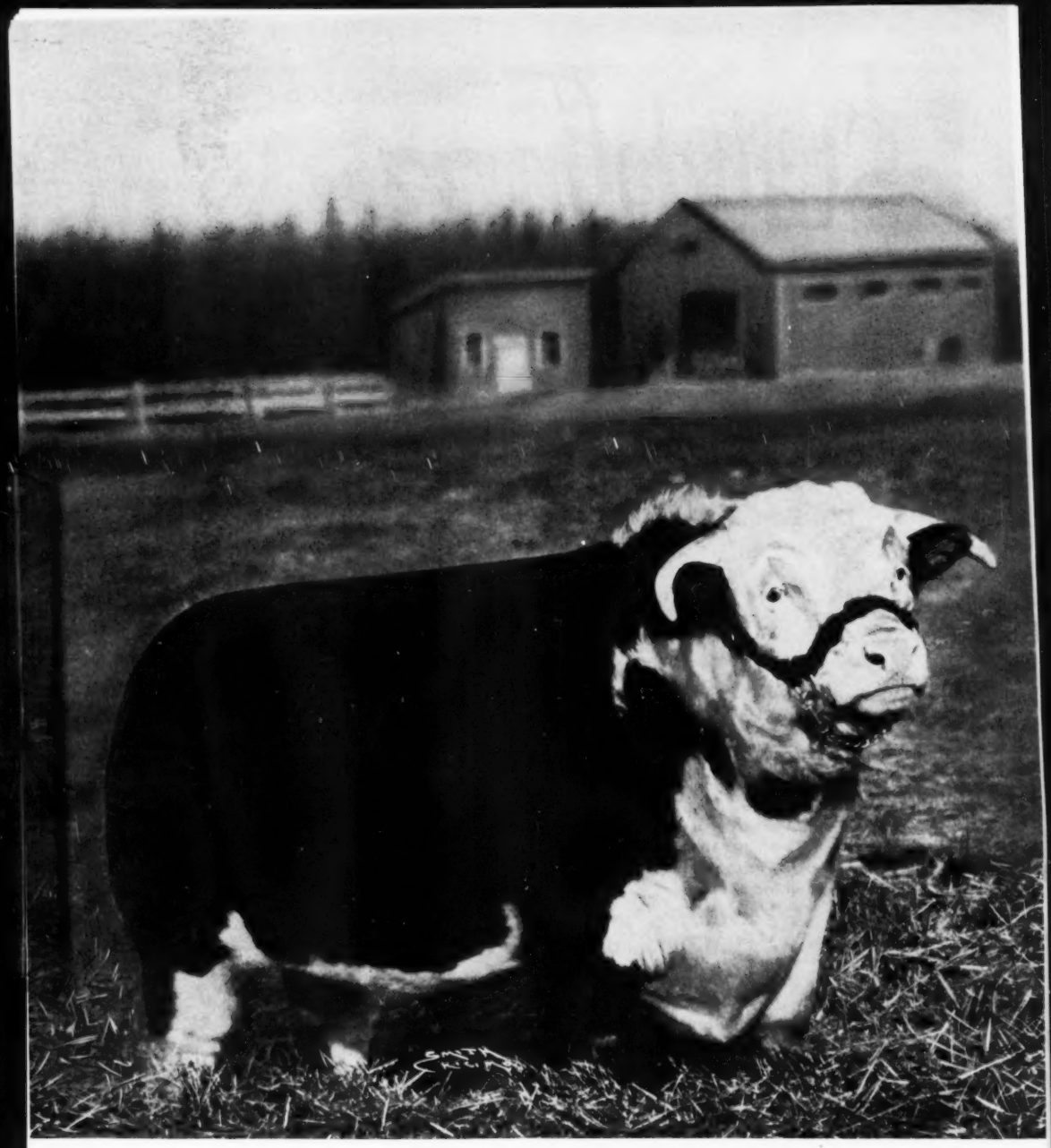


# He's a great herd sire—

Baca Prince Domino 20th, top-price Hereford Bull, established a new world's record in 1951 by bringing $87,500.00 — the highest price ever paid for a beef bull.

*BUT how does he compare with Baca Prince Domino?...* In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard for comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

# *Beaumont Mills Installs Whitin's* LARGE-PACKAGE SPINNING

**HIGHLIGHTS:** Some of the latest Whitin spinning frames, Model F-3, are being installed at Beaumont Mills. Designed for coarse yarn numbers, the new frames will produce a package that weighs almost a pound. This article tells how Beaumont is starting up the new frames.

**By JAMES H. KENNEDY**
Southern Editor, TEXTILE WORLD

BEAUMONT MILLS, Spartanburg, S. C., keeping up with the trend toward lower production costs, decided recently to install ten of Whitin's new large-package spinning frames. These frames have 264 spindles and are equipped with Pneumafil's Birkenhead type creel.

The new frames are now running on filling wound with an 11-in. traverse. Gauge of the frames is 4 in., and a 2¾-in. ring is now being used. The mill is eventually going to use 3-in. rings on the frames.

The 12-in. bobbin that Beaumont is using is made by American Paper Tube Co.

Cylinder and whorl ratio of the frames is 7.81.

### Drafting System Is the Latest

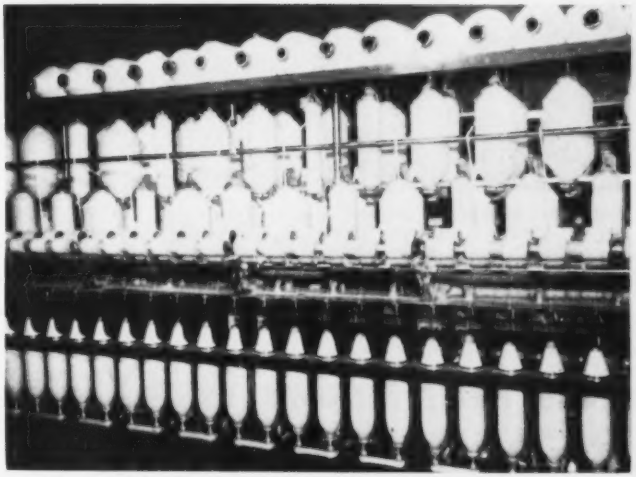
Whitin's T-3 drafting system is on the frames. The front top rolls are Whitin-Climax ball bearing. Diameters of the top rolls, from front to back, are 1⅞, 1, and 1⅞ in. The front and back rolls are Dayco covered, and the middle roll is knurled. Front-roll speed is 186 rpm.

Bottom rolls are of 1-in. diameter throughout. The intermediate sections of the front and back lines of the screw-necked steel rolls are interchangeable.

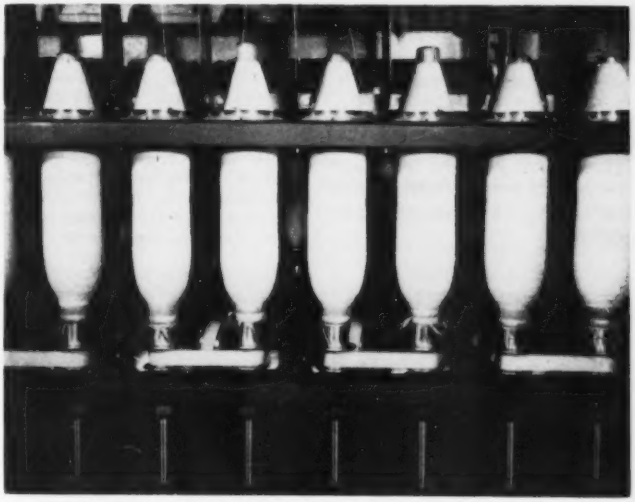
There are revolving top clearers on both lines of rolls. Scavenger rolls are plush covered.

In the lever-type weighting system, 5-lb. top-roll weights are used to give a pressure of about 56 lb. on the stirrup.

The cradles used in the drafting system can handle any staple cotton. The only adjustment is that of the 5-mm. cradle to the front roll, and that setting is as close as is possible without rubbing.



**PNEUMAFIL'S LOBOY CREEL** on the new Whitin frames brings the large roving packages within easy reach. Without this creel, the spinner would almost need a stepladder. Beaumont spins 7s filling yarn from a 0.58-hk. roving.



**THERE'S ALMOST A POUND OF YARN** in these packages. These rings are 2¾ in., but the mill is going to use 3-in. rings on the 4-in.-gauge frames. The winders had to be changed to accommodate the new and larger packages.

Beaumont's new frames are designed to handle 7s to 14s cotton yarns. Beaumont is now making 7s filling from 0.58-hk. roving, single, on a 5½ x 11 bobbin. The cotton is 1-in. middling. This 7s yarn is plied three times for use in No. 6 duck.

The new frames are driven by 15-hp. Allis-Chalmers motors through two large V-belts.

DIALING THE REASON for a McGlynn-Hays spinning-frame stop is easy for left-handed Yvette Lambert. She also does it with pleasure so the office will know its not her fault the frame is not producing.

ROTARY CONTACT attached to the back drafting roll of the Bradford reducer causes the recording pen to rise off the chart in the office the instant the frame stops. The rotary contact, pointed out by Helene Beaudoin, has as yet needed no servicing.

# *This Mill Knows WHY Its Frames Are Stopped*

**• A telephone-like dial attached to the head end of nylon-yarn processing machinery allows both frame hands and fixers to go on record as to why their machines were not running at a particular time.**

**• The central recording system has more than paid for itself at Thor Mills on one Bradford reducer and two worsted spinning frames by eliminating lost time in both creeling and doffing.**

**By RICHARD C. SCOTT**
New York Editor, TEXTILE WORLD

EVEN THOUGH Thor Mills Ltd. of Granby, Que., which processes nylon knitting yarns, installed its Ericsson Centralograph machine-stoppage recording system just six months ago, it has already been able to give the mill a 17½% increase in spinning production per week. At the same time, the device has won acceptance by both frame hands and fixers as a fair-enough system that would put only a "loafer" in a bad light.

Componently speaking, the Centralograph recording system, which tells why mill machinery is stopped at any time, consists of a recording instrument, a rectifier (battery charger), two wet-cell batteries, a condenser, telephone cable, and rotary contacts and dials for each of up to 20 machines that can be tied into the unit. Thor Mills has three frames connected to the system so far.

At Granby, the dials and rotary contacts were installed on the Brad-

### What the Centralograph Has Already Done in 6 Months To Help Thor Mills Ltd. Increase Its Production

1. It soon showed that the second shift was consistently doffing spinning frames about 5 min. faster than the first shift. First-shift doffing techniques were corrected. At 6 doffs per frame per shift, this improvement has meant at least an extra half-hour production per frame each day.

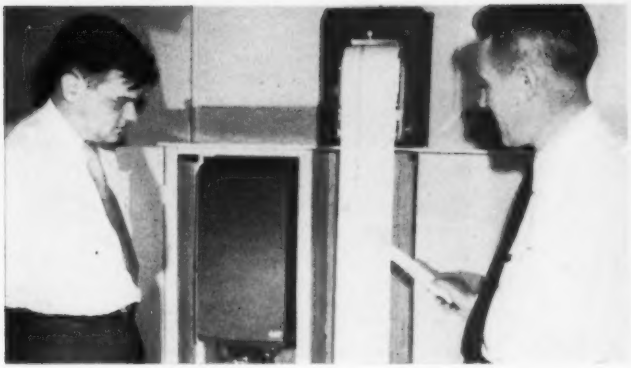
2. It indicated that the creeling procedure for roving was not the same on all three shifts. The most rapid method was adopted by all operators, and an additional 17½% increase in over-all production time was gained.

3. It has helped fixers concentrate on protective maintenance on the Bradford reducer and McGlynn-Hays spinning frames, because recurring reasons for machine stoppages have indicated where the maintenance men's attention was needed most.

4. It has already enabled the mill to spot its long-term yarn-spinning bottlenecks, enabling it to plan ahead machinery-wise, maintenance-wise, and personnel-wise with an assurance, based on facts, that it would not otherwise have had.

5. It has eliminated all production paperwork for supervisory personnel and has given them more time to spend out on the floor.

6. It has provided permanent "morning-after" night-shift reports in more detail than any night-shift superintendent could give orally or in long hand.



**REASONS FOR MACHINE STOPPAGES** are checked every day on the Centralograph recording instrument by Ornulf Heiburg (right), director of manufacturing, and Norman Chandler, in charge of research. By means of numbers dialed from the processing equipment itself, according to a predetermined "code," a permanent record of both the "whens" and "whys" of production stoppages is provided.

ford reducer and McGlynn-Hays spinning frames by the mill maintenance crew. The tying in of the rotary contacts to the telephone cable and the printing units on the office recorder was done by an outside electrician. The other parts of the system were easily connected at the time of installation of the recording panel in the office of the director of manufacturing.

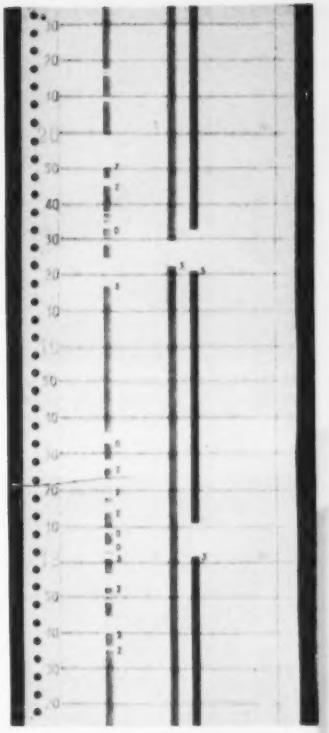
### "Well Worth the Cost"

Ornulf Heiburg, Norwegian-born director of manufacturing at the two and a half year old, one-story plant, says that as far as he is concerned the Centralograph has already paid for itself in the few short months he's had it installed.

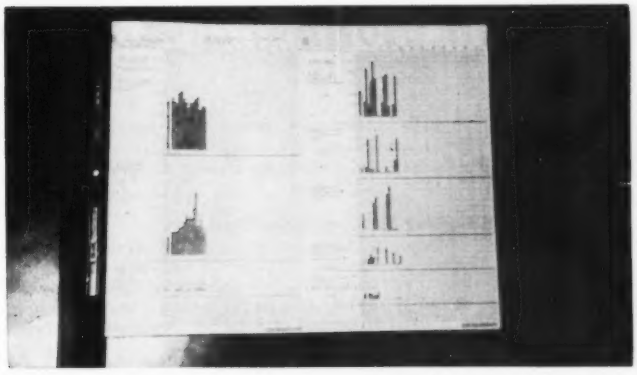
"It is unbeatable", he says, "for giving a superintendent a permanent detailed picture of both how and why or why not his machinery has run day after day and week after week. Not only have we more than made up the purchase price of the unit (about $2,000 in Canada) in getting increased production, checking on slowness and lateness, digging up bottlenecks, and planning ahead for a 100%-operation mill—but also our supervisory staff has an intangible peace of mind that comes with knowing that we know absolutely what our machines are doing, and if they haven't produced, why not. This latter aspect is almost as valuable in the long run as the close-range dollars-and-cents savings we are able to obtain from time to time."

This observer wondered how the employees out on the job have taken

(Continued on page 234)



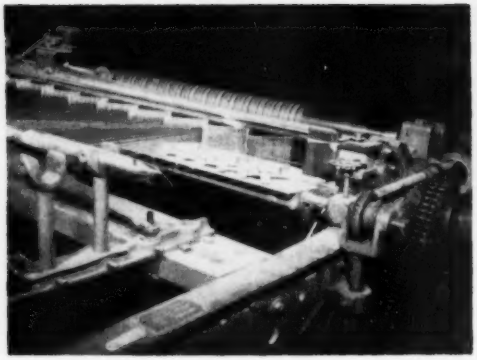
**SMALL NUMBERS** around this part of a typical Thor Mills machine-stoppage chart, dialed onto the record by the reducer or spinning-frame operator herself, indicate why the upward production line was broken. On the left side of the chart, running from bottom to top, the larger numbers 17 to 21 indicate typical evening hours; and the smaller numbers, 10 to 50, indicate the minutes in a particular hour.



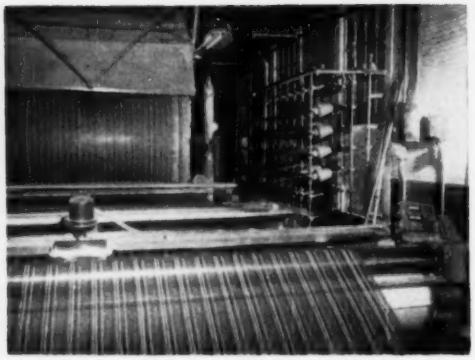
**AN ANALYSIS** of the reasons for machine stoppages on a weekly basis is worked up percentagewise in this form. The over-all paper work involved in the preliminary figuring and final graph-making requires about three hours' time each Friday morning.

**Dialing Code for Machinery Stoppage**

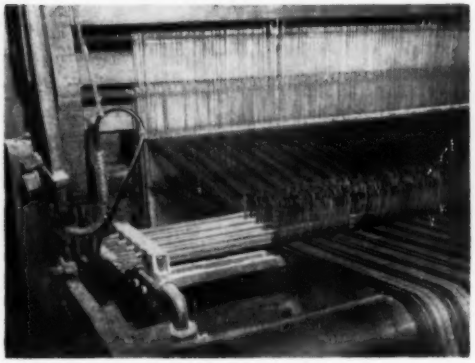
| Number | Reason |
|---|---|
| 1 | Stop to experiment |
| 2 | Stop to change balls or bobbins in the creel |
| 3 | Stop to doff |
| 4 | Stop to change to different quality |
| 5 | Stop to clean or lubricate |
| 6 | Machine faults or adjustment |
| 7 | Waiting for material |
| 8 | Waiting for empty bobbins |
| 9 | Maintenance man arrived or departed |
| 0 | Other reasons |



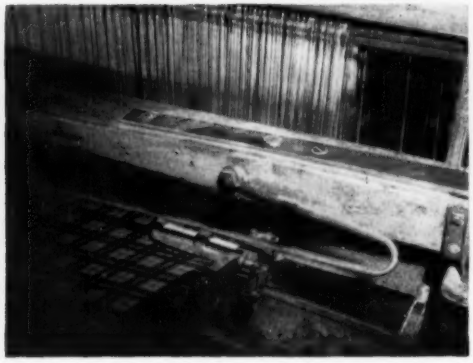
THE SELVAGE ENDS are spaced in the slasher comb to obtain the same build-up on the beam at the selvages and in the warp body. The comb is fine enough to spread the ends properly.



A SPECIAL SELVAGE CREEL is used when the selvage ends do not have to be slashed. The selvage-end tension is controlled closely when the selvages join the body of the warp behind the cylinder.



WITH THE WARP SHED open, the straight line extends through the center of the shed. Since the open warp is evenly divided in the stop-motion stand, the ends do not touch the drop-wire bars.



THE LEVEL HARNESSES show the straight warp line as it extends from the warp to the cloth and breastbeam. The cloth is perfectly straight in the temples.

# Weave Spun-Rayon Cloth on C-4 Looms

**▶ Seaboard Mills has eliminated the major defect, set marks, from spun-rayon fabrics. No cost has been added to manufacturing; and production, as well as quality, has been improved. Types of looms other than C-4 can be set by some of the methods used here.**

**By HENRY E. GOFORTH**
General Foreman, Seaboard Mills, U. S. Rubber Co.

FOR MORE THAN 20 yr. I have been weaving spun-rayon cloth. During most of that time, set marks have been a major problem with me. As a result of a lot of experimenting and work, I have been able to stop set marks in all styles of spun-rayon fabrics. We can even leave our looms stopped over the week end with the harness shed wide open and start up on Monday morning without set marks.

### Correct Slashing Is the Start

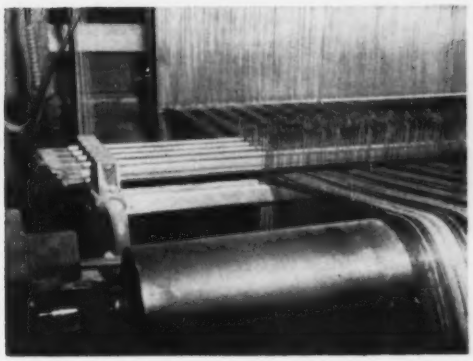
Warp slashing is important in the prevention of set marks. A well-sized warp should contain a size mixture that is soft and pliable but not gummy enough to cause the woven cloth to drag on the take-up and pressure rolls.

A moisture control of 4 to 5% should be left in the slashed warp.

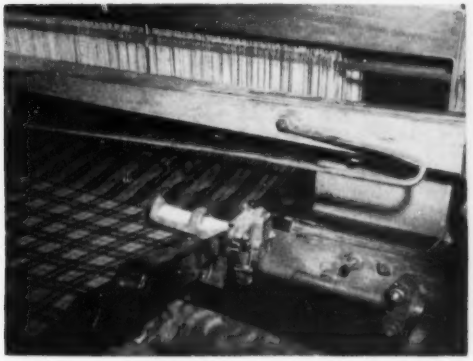
The warp should be wound on a loom beam that has the heads adjusted to an over-all inside beam length within 1 in. of the width of the woven cloth at the reed.

The selvage tension and the warp-body tension must be

**THE SELVAGE TENSION** and the warp build-up are checked continuously by the slasher men. Slasher back-man Jasper Michaels and slasher tender A. V. Murray operate this West Point slasher.



**THE WHIP ROLL** is adjusted to form a straight warp line from the top of the roll through the center of the drop wires and through the leveled harness eyes to the cloth at the breastbeam.



**NO BOW AT THE TEMPLES** is evident when the warp shed is open. The warp shed is evenly divided on each side of the straight line, and set marks will not be formed from stretched yarn.

**FRICTION DRUMS AND BANDS** are used on each end of the beam. A let-off is not used. The 30-in. beam is almost full of yarn, but only a small amount of weight is used.

# WITH NO SET MARKS

the same if set marks are to be prevented in the woven cloth. If the selvages do not require slashing, we can control the tension more positively when we creel the selvage ends directly from a creel at each side of the slasher to the warp just back of the drying cylinder.

A warp that has equal selvage and body tension can be woven with little warp weight on the loom.

## These Loom Settings Help

As a result of the slippage of the cloth yarns in wet finishing of spun-rayon fabrics, a cover on the cloth has little value. We disregard loom settings that are used to put a good cover on our spun rayons.

We do this—

1. Remove the loom parts that make the whip roll vibrate, and replace them with stationary whip-roll parts. The only movement the whip roll should make is to turn.

2. Set the dobby to obtain the correct-size warp shed. The size of the shed is usually changed when the cloth style is changed.

3. Adjust the whip roll vertically to obtain a straight line from the whip roll to the breastbeam.

4. Thread the cloth on the all-purpose high-roll take-up to come out and around the take-up roll.

5. Remove the regular loom let-off and use the manufacturer's friction drum and band on the ends of both beam heads.

6. Keep good covers on the take-up and pressure rolls. (We get as good results from rubber-covered pressure rolls as from felt-covered rolls.)

With these settings, the warp line will be level from

(Continued on page 234)

Best Artistic Design
First Award — FAIRFAX MILLS

Hosiery and Wearing-Apparel Accessories
Second Award — MANHATTAN SHIRT CO.

# Award Winners in the 1952 Set-Up Paper-Box Competition

- More than 1,200 set-up paper boxes were entered in the 1952 competition sponsored by the National Paper Box Mfrs. Assn., Philadelphia, Pa.
- Textile-mill winners and their exhibits are reproduced here to show you what can be done consumerwise in this line of endeavor.

Matching Necktie and Handkerchief Box
First Award — RAYON FABRICS CORP.

Best Display Box
Honorable Mention — FAIRFAX MILLS

Sheets and Pillowcases Boxes
Honorable Mention — PEPPERELL MFG. CO.

Hosiery and Wearing-Apparel Accessories
Honorable Mention — SCHIAPARELLI

# SPEED, EASE OF HANDLING
## Highlight Packaging Exposition

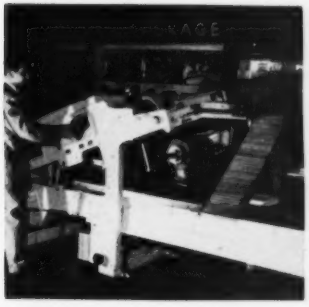
► **Biggest packaging show to date features many items of textile-mill interest**

FROM ALL INDICATIONS, not too many textile-mill men attended the 21st National Packaging Exposition held recently at Atlantic City, N. J. Expecting that such might be the case, TEXTILE WORLD took its roving camera to Atlantic City at that time and snapped pictures of developments coming along in "packaging" that progressive textile mills should keep their eyes on.

For the first time in the history of the Packaging Exposition, both levels of the huge Atlantic City Auditorium were occupied by booths. There were 271 exhibitors, 20% more than the previous 1951 record. Exhibits covered not only packaging equipment and displays, but also marking, coating, controlling, transportation, and communications equipment of latest design.

Look these pictures and captions over. Even if you get only one idea that is applicable to your mill problems, your time will be well spent. For further information on any of the items, get in touch with the manufacturer directly.

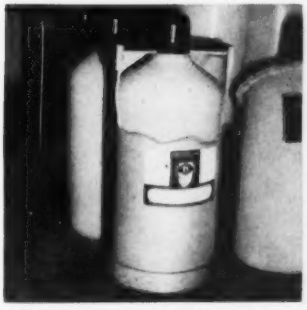
### Packaging Equipment



**ADJUSTABLE TEXTILE WRAPPING MACHINE** wraps up to 40 16x9½x5¼-in. packages a minute, according to Package Machinery Co., Springfield, Mass., manufacturer of this Model U-6 unit.

**AUTOMATIC MEASURING,** moistening, and cut-off of gummed tape in package-sealing operations has been made easier with this electric "Dial Taper" that was demonstrated by Marsh Stencil Machine Co., Belleville, Ill.

**15-LB. MANUALLY OPERATED STAPLING MACHINE** is excellent for decentralized shipping or where volume is not too large, says International Staple & Machine Co., Herrin, Ill. The unit sells for $150.



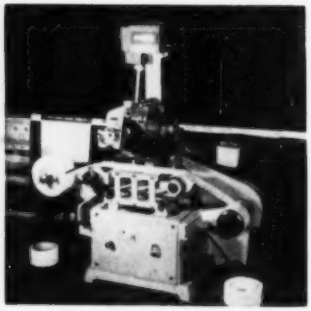
**BLOW-MOLDED 13-GAL. CARBOYS** made of lightweight polyethylene in a single piece were shown by Plax Corp., Hartford, Conn. Indestructible and chemically inert, the carboys pass ICC shipping tests and are both easy to handle and pour.

**PROTECTIVE CUSHIONING MATERIAL** for inner packaging, called "Celluliner," was on display at the booth of Gilman Bros. Co., Gilman, Conn. The liner meets Federal Specification UU-C-843 and has 300% greater compressive resilience than creped wadding.

**"PAK-TYER" TYING MACHINE** manufactured by Felins Tying Machine Co., Milwaukee, Wis., saves twine in the tying of all packages, according to Herman Kohler of the firm, demonstrating here how the machine ties automatically.

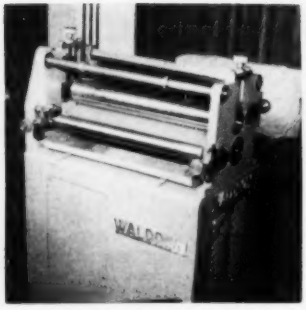
## PACKAGING-SHOW REPORT (Continued)

### Marking and Coating



TAPE PRINTER, Model 26A, for automatic imprinting of up to 2¼x3-in. imprint on cloth, paper, plastic, or pressure-sensitive tapes, on feed lengths up to 6 in., was shown by Markem Machine Co., Keene, N. H.

LITHOGRAPHED DRUMS to advertise a product in transit were shown by Rheem Mfg. Co., New York. Any design, including half-tones, is possible in as many colors as are desired.



AN ALL-PURPOSE ROLL COATER, impregnator, and laminator, available up to 60 in. in width, was on display in model form at the booth of John Waldron Corp., New Brunswick, N. J.

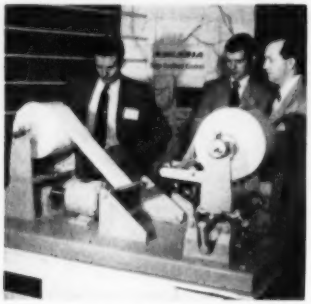
### Samples of Packaging

DISPLAY BOXES of over a dozen textile-mill products made up a handsome exhibit at the booth of Container Corp. of America, Chicago, Ill.

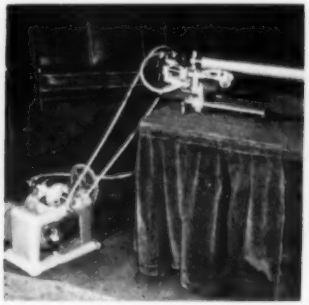
HOSIERY PACKAGING of various designs and colors was displayed by Lassiter Corp., New York. The smooth, shiny surfaces and bright colors stimulate retail sales.

FLEXIBLE BURLAP TUBING, cut on a bias, meets most heavy protective needs. Bemis Bro. Bag Co., Brooklyn, N. Y., demonstrated with samples such as this one.

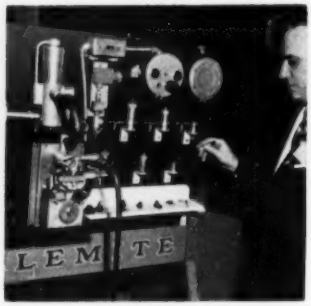
### Controlling Methods



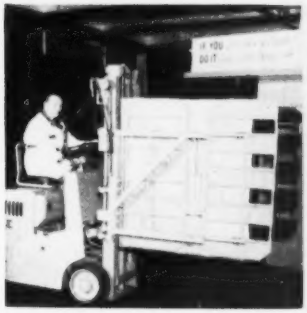
EDGE-POSITIONING CONTROL SYSTEM shown by Askania Regulator Co., Chicago, Ill., works by means of upper and lower nozzles and air pressure that regulates the fabric selvage position through a diaphragm.



CAMBERING ROLLS (upper right) for the making of even-web and even-selvage film and cloth rolls were exhibited through this model by Automatic Web Control Mfg. Co., Oklahoma City, Okla.

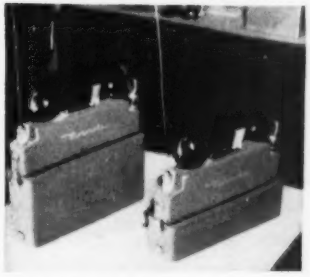


"OIL-MIST" SYSTEM for centralized lubrication was displayed as a "package" item by Alemite Div., Stewart-Warner Corp., Chicago, Ill. The model shown here simulated an actual mill installation.



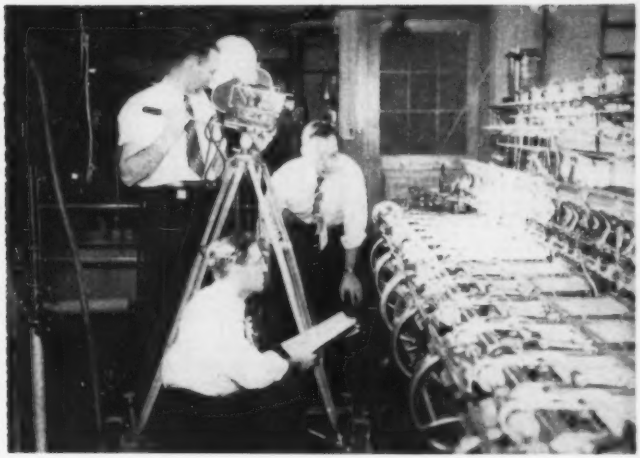
REMOVABLE FREE-WHEELING WINGS on this 2,000-lb. lift truck shown by Yale & Towne Mfg. Co., Philadelphia, Pa., are 48x48 in. and lift to a maximum of 130 in.

DRUM-HANDLING ATTACHMENT for its line of power lift trucks was demonstrated by Clark Equipment Co., Battle Creek, Mich. The "Lift-o-matic" attachment is manufactured by Marvel Industries, Inc., Evanston, Ill.



"HANDIE-TALKIE" portable FM 2-way radios, storage-battery and dry-battery models, were a center of interest at the Motorola, Inc., Chicago, Ill., booth. Priced at $308 and $275 plus tax, these uits have a communication radius of from two to three miles.

▶ Beam covers and barrel covers made of Chase Bag Co., Chicago, Ill., burlap bagging were shown by that company.



MOTION-PICTURE TEAM is shown filming a sequence of a full-fashioned machine operation.

# FULL-FASHIONED Knitting
## Explained by Educational Movie

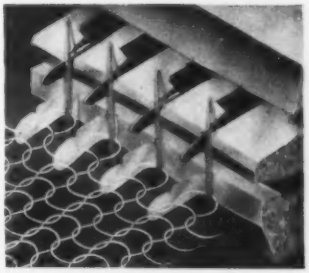
Animated illustrations, employing the so-called "Disney technique" to bring out the principles behind the working of an intricate full-fashioned knitting machine, have been used with success in a film available from Textile Machine Works.

This 25-min., 16-mm. film in color and with sound endeavors to reduce the complexities of a machine with 180,000 parts to a point where its operation can be easily understood by mill owners, foremen, knitters, and other hosiery-mill employees.

The film opens with a brief history of knitting, starting in 1586 with Clergyman William Lee, who invented the first mechanical knitting machine. Constant improvements through the years are shown, including the first practical full-fashioned knitting machine of American manufacture, a 16-section machine built by TMW.

The film then takes a stocking blank through the entire knitting process. Short close-up shots of special attachments and devices show how this machine is able to produce quality, form-fitting stockings.

Animated illustrations show the individual operations of spring-beard needles, sinkers, dividers, etc., that take place in the making of a stitch.



ANIMATED DRAWING shows a step in loop-formation using spring-beard needles.

The film ends with a short trip through the various finishing departments to show the operations that follow the knitting process.

General comments from mill executives who have seen this film indicate that, in their opinion, it is one of the best forms of instructional material available on full-fashioned knitting.

Sound tracks are available in French, German, and Spanish. Prints are now being used in many of the leading textile schools. A number of prints are available upon application to the producer, Textile Machine Works, Reading, Pa.

# KNITTING AND ALLIED CRAFTS EXHIBITION

## *Time-Saving Improvements Continue for Knitters*

**▶ Precision-type knitting machines and auxiliary equipment exhibited at Grand Central Palace, New York, under the auspices of National Knitted Outwear Assn. and the Underwear Institute.**

**▶ 8,000 registered attendees from the U. S., Canada, Latin America, and abroad impressed by equipment offered by 135 exhibitors, 31 more than two years ago.**

**▶ Machinery buying done was called "brisk" by many firms with space in the week-long show.**

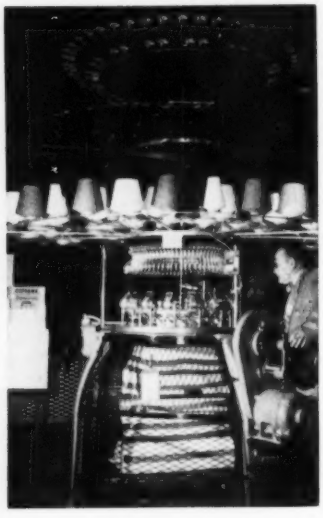
HIGHLIGHTS OF 1951-52 developments in the outerwear- and underwear-knitting field can be found in the following descriptions and pictures compiled by four TW editors during the recent Knitting & Allied Crafts Exposition in New York.

Double feeds, combination knits, improved patterning and bridging, more precise control, and easier maintenance are knitting features that evoked the most interest.

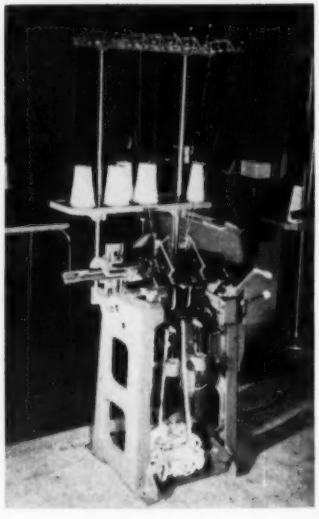
More automatic control and easier processing were offered by finishing and auxiliary-equipment exhibitors.

Sponsored by the National Knitted Outerwear Assn. and the Underwear Institute to coincide with their annual meetings and dinners, the show was managed by Expositions, Inc., of New York.

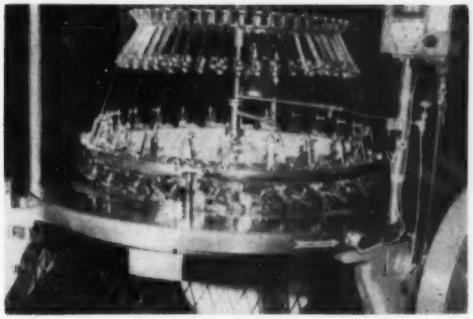
## Knitting Machines



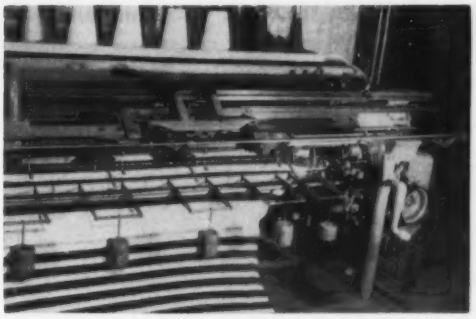
AUTOMATIC "SUPER-LOOP" TERRY STRIPER, Model LT/SA, that knits multi-colored long-loop jersey-knit terry-striped fabric for beach- and outerwear use, was a new machine exhibited by Supreme Knitting Machine Co., Inc., Brooklyn, N. Y. Built on a standard automatic striper frame, the new knitter uses 16 4-color striping boxes, 8 stationary backing feeds, and produces up to 20 yd. per hr. of terry stripes and up to 30 yd. per hr. of single-color terry. Cloth from the standard 26-in. 18-needle-per-in. LT/SA is 60 in. wide after finishing. Standard auxiliary equipment includes the 80-end yarn creel, the 80-end tension ring, and 80 double stopmotions.



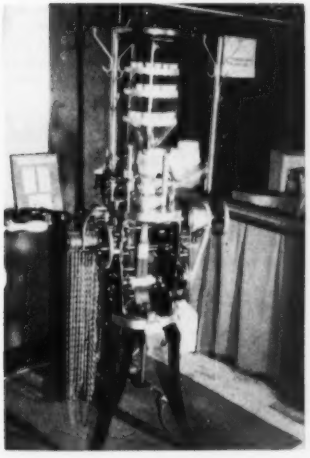
STRAPPING MACHINE, Stoll "Kamo", for producing tubular or rib borders for rib, half- and full-cardigans, was on exhibit at the booth of Knitting Machine & Supply Co., New York. The selvage-strapping unit has three yarn carriers, an automatic take-up roll, electric stop motions, and chain drive. Gauges run from 6 to 14. Speed is about 1,400 rpm., running 65 courses per min. in this case.



**"VENT-KNIT" KNITTING MACHINE, Model LRP, designed for high-speed production of "open-air" stitches surrounded by uniform jersey stitches in any pattern combination, was exhibited by Supreme Knitting Machine Co., Inc., Brooklyn, N. Y. The machine knits with one heavy and one fine yarn at each feed. Selected needles are raised to vent position by the insertion of jacks into the pattern-wheel slots. The heavy end of yarn is laid on the back of the needle, while the finer end knits a vent stitch on the face of the cloth. Size of the vent stitch is controlled by a sinker-cam arrangement. Other features of Model LRP are standard.**



**59-IN. DOUBLE-SYSTEM FLAT-KNITTING MACHINE, Type DDD, available in from 4½ to 18 needles per inch for the manufacture of outerwear with ribbed borders with or without stripes, was shown by Dubied Machinery Co., Long Island City, N. Y. The new unit, superseding the RAL and RAC models, has its old-type control levers for pattern selection on each end now replaced by single box controls that select the subsequent needle positioning called for by the cardboard pattern cards (lower right). The cards themselves supersede the older 4-chain pattern-selection system. The universal counter wheel (right) controls length of knitted piece by means of patented press studs.**



**A NEW MULTI-DESIGN RIBBER for the manufacture of fancy-pattern rib mittens was on exhibit in the booth of Fidelity Machine Co., Inc., 3908 Frankford Ave., Philadelphia 24, Pa. Known as Model S-49G, the machine for the first time allows knitted-glove manufacturers to introduce wrap patterns into true rib fabric. It is possible to wrap a different color on every needle; and with its 25-step pattern mechanism, the machine gives almost unlimited scope in the choice of designs.**

**Wrap yarns are held on compact nylon-plastic spools that are rewindable and hold sufficient yarn to last several shifts. A 5-color yarn selector and knot-tyer unit, which is standard equipment, operates from a stationary cone supply and allows the choice of five different color stripes in any sequence. A tuck mechanism is provided for shaping the mitten properly.**

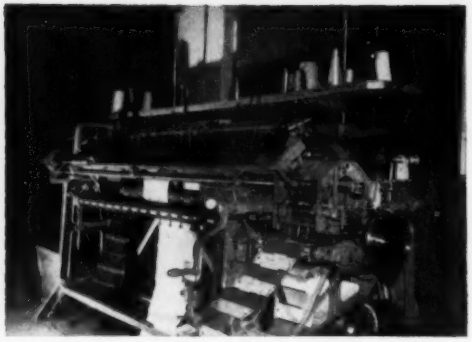
**Speeds up to 110 rpm. are possible.**

**12-FEED 30-IN.-DIA. CIRCULAR LINKS-AND-LINKS machine for the knitting of fine-gauge sweaters and skirts, available up to 12 needles per inch, was shown for the first time by Jacquard Knitting Machine Co., Inc., Philadelphia, Pa. Known as the LA-12 machine, the combination jersey-knitting unit has double the feeds of previous models, an enclosed 1½-hp. two-speed drive (lower right), an all-steel control stand (indicated by Charles Miller, company vice president) and a "free wheeling" hand wheel for easy turning of the machine by hand when it is not knitting. Twelve 3-color yarn changers are provided also. Other points of interest included stitch indicators, individual latch openers, needle transfer with cams rather than with a transfer plate, stop motions, and a control ring to reset the stop motion at any position around the machine. The machine knits at a rate of 144 courses per min.**

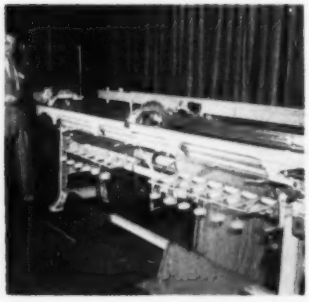
**PLAIN TERRY FABRICS are knit on this new-model EEM machine exhibited by Edmos Products Corp., Brooklyn, N. Y. Available in cylinder diameters from 10 to 26 in., and in cylinders from 8 to 16 cut or coarser if necessary, this basic machine has more feeds than the company's "Poodle 'n Rib" machine, as well as wider striping possibilities.**

▶ The "Eclipse," Style SSW-2, a new selective striper machine for the manufacture of polo shirts and outerwear that was exhibited at the H. Brinton Co., Philadelphia, Pa., booth, has two fingers in each of the 32 feeds for twice the variation in patterning and speeds as former models. The machine has design wheels, a 64-end table in the creel, and was producing 28 yd. per hr. (about 15¼ lb.) on 30/2 cotton. The maximum number of needles available on SSW-2 was said to be 1,632.

100-IN. 36-GAUGE ALL-PURPOSE RASCHEL MACHINE was running at the booth of Robert Reiner, Inc., Weehawken, N. J. To be available in the fall also in 24 and 40 gauge, the new machine was running at a rate of 300 stitches per min. It can process any fiber, filament or staple. The chain-link drive is seen at the right. Pattern wheels are optional as a drive, for smoother action, it is said. Built to take four beams of 21-in. diameter or six beams of 14-in. diameter, the knitter has three (optionally four) rubber covered take-up rolls. Double needle bars, plush points, fall-plate attachment, crepe attachment, and stitch comb are optional.



60-IN. 4-TO-14 GAUGE FLAT-KNITTING machine for the manufacture of rib bottoms, rib neck bands, and fancy trimmings was exhibited by Knitting Machine & Supply Co., New York. Known as Model JBOM/b, the machine at one time can knit up to 12 1½-in. stripes in three colors. Other features are a rectangular guide bar and chain, electric stop motions, individually adjustable take-up rolls, automatic racking over 5 to 6 needles (depending on the gauge) after every half or full revolution, interchangeable knitting widths, brake-controlled cam slides for positive stitch tension, and a tuck-stitch and plain-rib-knitting arrangement in one row of knitting.

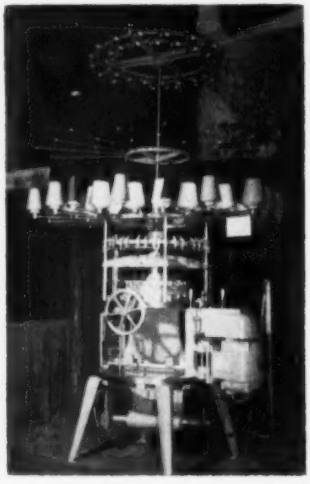


TANDEM-CARRIAGE AUTOMATIC LINKS-AND-LINKS (purl-stitch) machine was exhibited by Queens Machine Co., Brooklyn, N. Y. Employing a new double-jack and double-butt system and designed to eliminate bridges and latch openers, the machine controls the position of floats in multi-colored float work; allows for the knitting of true cable and rope stitches with no missing needles, or links rows, showing; and permits intarsia and similated embroidery designs, as well as links-and-links borders on garments. Rate of production is said to be high because of simplification of the carriage-cam arrangement.

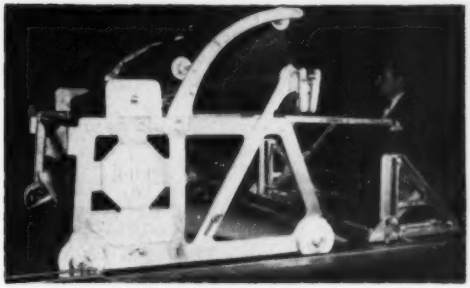
► Pullover interlock bodies on a 24-feed, 30-in.-dia. machine were cited by H. Brinton Co., Philadelphia, Pa., as being standard production on its "Jacloc" PR-19 knitter that was shown at the show. Blister stitches, blister and grenadine, combination blister and jacquard, grenadine, 2- and 3-color jacquard, and welt stitching were said to be possible for worsted outerwear fabrics and dress materials. Available 9 to 14 needles per inch, with dial cap and double-needle race, the machine can be had with attachments for laying in or knitting in rubber yarns for bathing-suit fabrics.

"MULTIPLEX" REVOLVING-CYLINDER RIB-BODY MACHINE, Style RM-RB, that was in operation at the H. Brinton Co., Philadelphia, Pa., booth at the show, is being looked over here by H. W. Anderson, vice president, and George McDowell, head of sales. This particular model had a 17-in. cylinder, with 16 feeds, 14 cuts, and a dogless, gear-driven dial. Other new features were (1) an air spray on the side going with the cylinder and dial, (2) a hole detector under the cylinder, (3) a lower stop motion, enlarged and moved out, and (4) a new toothed ring that prevents slippage when turning the cylinder around to get at broken needles. Available in 8 to 26 feeds and in 8 to 16 cuts, the machine can produce up to 35 yd. per hr.

"POODLE 'N RIB" MACHINE shown by Edmos Products Corp., Brooklyn, N. Y., combines the knitting of terry cloth and Swiss rib in alternating panels in the fabric, to give stretch and recovery. The unit is convertible to 100% terry or 100% rib by a simple change of needles, blanks, cylinder, and dial.



## Finishing Equipment



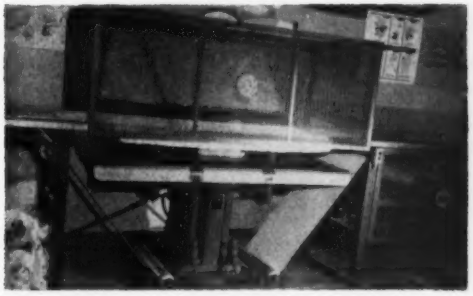
**AUTOMATIC CLOTH-SPREADING MACHINE** that clamps automatically without the use of pins was shown by Woolman's Sewing Machine Co., 824 Arch St., Philadelphia 7, Pa. The H.B.C. Automatic, as the machine is called, has such a flexible construction that the maker claims that it won't jump the track even if the table is uneven. There are adjustable arms for rolled goods to bring the roll closer to the table.

Another feature of the machine is that it can spread lining and interlining at the same time. The platform can be removed—both flat and rolled fabrics can be accommodated. The stationary catcher is removable so that the ends of the fabric will be free—an arrangement said to make it unnecessary for the operator to pull fabrics away from the catcher.

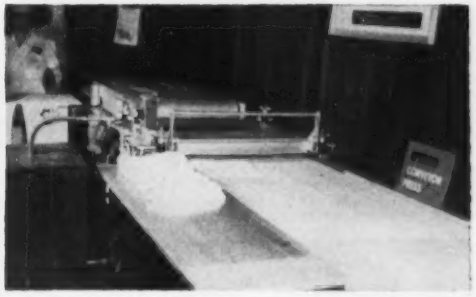
**FASTER AND MORE CONVENIENT STEAMING** for knit-goods manufacturers is claimed possible with a new automatic steam board offered by U. S. Hoffman Machinery Corp. ,105 4th Ave., New York 3, N. Y. The unit, model CES-9, is equipped with two buck spray valves and two vacuum valves, all air operated. A control panel at the front of the table features push-button operation.

In operation, the steam board gets buck steam from one lever and vacuum from another. When both levers are off, the push button provides cycling operation of both steam and vacuum. When the operator pushes the button, the machine steams for any period up to 60 sec., and then automatically turns off the steam and applies vacuum for the same length of time.

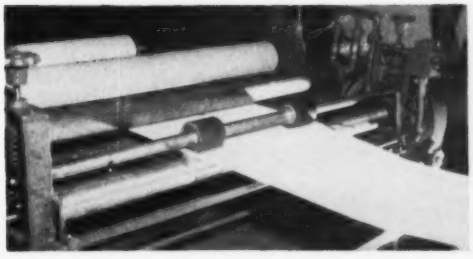
The CES-9, in a 24x60 size, costs $475.00, f.o.b. Syracuse, N. Y.



**KNIT-GOODS PRESS WITH CONVEYOR,** Model 160-PCK, an automatic pneumatically operated 24x60-in. press controlled by an electronic device that operates in conjunction with a variable-speed feed-in and take-away conveyor, was shown by Prosperity Co., Inc., Syracuse, N. Y. Seven pressing cycles are obtained per minute at best-running speed. Steam pressure and timing during pressing are regulated. Up to 500 doz. per day of smaller knitted garments can be handed in the set-up. At least 20 ft. of conveyor is recommended for loading and 5 ft. for unloading. A 1½-hp. air compressor is extra.

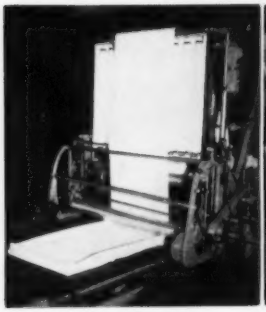


**AMCO CONVEYOR PRESS,** designed for continuous folding, conveying, pressing, and packaging, was on exhibition at the booth of American Safety Table Co., Inc., New York. Available in various lengths, the conveyor belt is 24 in. wide. Conveyor, folding, and packing tables are adjustable for 36 to 38 in. The press itself has thermostatic heat regulation, a variable-speed drive, spring-loaded release, positive chain drive, adjustable height and pressure, an endless-belt take-up adjustment, prepackaged flange bearings, and push-button control.



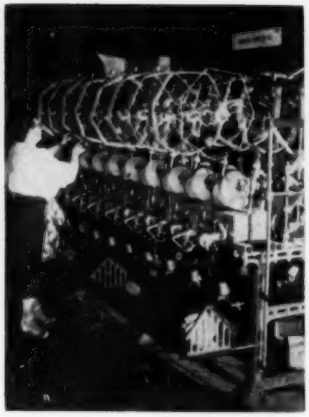
← **OVERFEED DRIVE** with variable-speed control for relaxed fabric finishing and a roller-bearing drop-in basket (lower right) for unrolling piece goods without putting a rod through the cloth were shown publicly for the first time by Joseph Pernick Co., Inc., Maspeth, L. I., N. Y.

► **The extractor-pad machine** featured by Tubular Textile Machinery Corp. is applicable to resin application on knit goods when used in conjunction with a dryer. It has been used successfully in the application of fluorescent dyes.



LAYING-UP MACHINE can now handle up to 8½ in. It has a new gear drive.

STRIP CUTTER takes a whole roll at once, increases production, cuts waste.



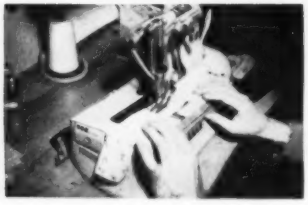
VARIO-CONER, Model KM was in operation in the booth of American Schweiter Co., Whitinsville, Mass. Features of the machine winding from skeins to cones are (1) an approximately 4½-lb. package, (2) ability to wind any yarn or blend, (3) a 13° full package obtained through the independent motions of the yarn guide and the cone holder, (4) ball-bearinged shafts (5) progressive 2-disk tensioning of yarn, (6) staggered cross winding to prevent patterning on the cone, and (7) 200 yd. per min. with skeins in creel.

Considerable interest was evidenced in the improvements shown on machinery from J. A. Firsching & Son, Inc., 421-423 Broad St., Utica 2, N. Y.

The fully automatic laying-up machine can now lay up 8¼ in. instead of 7 in. A new, quick-change speed mechanism has a different gear for each kind of cloth to assure positive drive with smoother, easier running. The new drive can be installed on earlier models and eliminates the slippage and guessing formerly prevalent with V-belts. Another improvement on the laying-up machine is the new roll lift that makes it possible to lay the roll on the table and raise it up without straining—a job that a woman can do now.

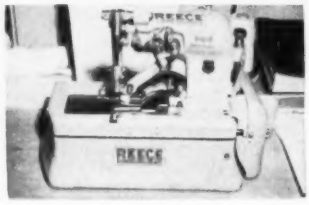
The two new features of Firshing's collarette and strip-cutting machine are an automatic cloth loader and new wheel guides. By cutting directly from the cloth roll, you have to start up only once per roll and it's easier to guide the fabric. Waste is less too—almost none now vs. 4 to 6% end waste on each length cut under the old method.

## Mending, Sewing, and Trimming Equipment



BUTTON HOLER

LABEL SEWER




TACKER

A buttonhole machine, a label sewer, and a tacker in their high-speed S-2 line were featured by The Reece Corp., 500 Harrison Ave., Boston 18, Mass. List price for any one of the machines, complete with table and motor, is $685.

The high-speed, straight-hole buttonhole machine for knitwear and cotton goods is claimed to produce twice as much as any other buttonholer—10,000 to 14,000 buttonholes can be made in an 8-hr. day. And it takes only seconds to vary buttonhole size or stitch density. Range of sizes possible is from ¼ in. to 1¾ in. The adaptability of this model to parallel or crosswise setups is said to enable a plant to make layouts never before possible or profitable.

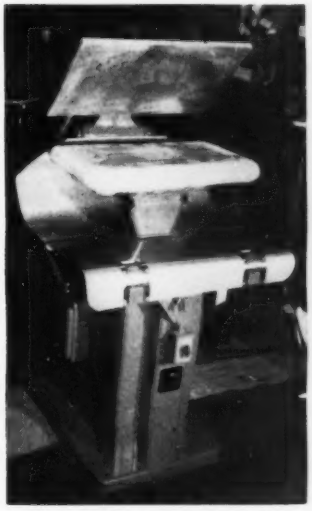
The S-2 label sewer can attach 2,400 hanger-type labels in an 8-hr. day. The overcast stitch that this machine makes is said to overcome the two basic weaknesses of straight-line stitching—insecure corners and weave unraveling. The machine sews one end of the label in one direction, the other end in the opposite direction for a smooth, rhythmic operation. All the operator has to do is position the label and depress the starting treadle. The machine then takes over and automatically clamps, stitches to the exact length, trims the thread, and stops with the clamps raised. Any width of label from ¼ in to 1¼ in. can be sewn.

The third machine in the line, the S-2 tacker, can make a tack anywhere from ¼ in. to 1¾ in. long. Instantly adjustable, the machine is available in models to sew single- or double-stitched tacks. The tacker can be used to tack down chained-off ends in overseaming, to join ends of webbing on elastic interbands, to tack mitered corners of contour sheets, and to complete several other operations.

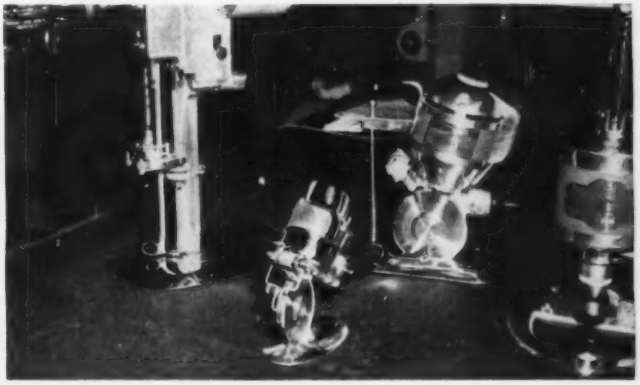
**INTERMITTENT-GATHERING ATTACHMENT** on the Model 246-3 sewing machine was displayed by Singer Sewing Machine Co., New York, using nylon tricot as the fabric sample. The movable arm in the operator's right hand is pushed up to the needle to start the gathering operation and pulled away to stop it.

**LABEL-SEWING MACHINE,** Model 69-SV288, for tacking prefolded ¾x1¼-in. labels, complete with label dispenser, was exhibited by Singer Sewing Machine Co., New York. Stitching speed is 1,000 rpm. Each label is given 42 stitches.

Other label sizes are to be made available as requested.



**ELECTRIC DECORATIVE-TRANSFER PRESS,** Model 1424 ET, is air operated and thermostatically controlled in the upper head. Push-button two-hand control in conjunction with variable time and pressure adjustments are features. The press was exhibited by Prosperity Co., Inc., Syracuse, N. Y.



**FOUR NEW CLOTH CUTTERS** or improvements on basic models were presented by Beaver Cloth Cutting Machines, Inc., 336 West 37th St., New York 18, N. Y.

A 4-in. circular knife was shown in both light- and heavy-duty models.

A smaller machine, a lightweight circular knife of 2½-in. diameter, was claimed to reduce operator fatigue on continuous, single-thickness cutting.

The talking point on the "Bulls-eye" cloth drill was a level set in the base—said to be the only machine so equipped. The drill is available in 6- and 8-in. models.

Feature of the company's straight-knife cloth cutter was an automatic, self-sharpening mechanism. The heavy-duty model is available in cutting capacities from 4 in. to 8 in. The medium-duty model is designed for the 4- to 6-in. range. The sharpening device has several interesting features: precision die casting to provide the rigidity necessary to sharpen the blade evenly—fully automatic sharpening that stops when the knife is sharp—a safety mechanism that prevents engagement of the sharpener during cutting—and other structural improvements.

**YOU CAN CUT STRAIGHT, CLEAN LINES** with these new, heavy-duty electric scissors that operate on 110-v, 60-cycle current. Sciss-O-Matic is the name of the new electric scissors shown by Ginsberg Machine Co., Inc., 224 Fifth Ave., New York 1, N. Y. The company claims that this new product can cut trimming time by 50%. A rubber grip handle helps the operator to leave a smooth, straight edge instead of the ragged edge left by ordinary scissors. When the unit is hung up, the power is automatically shut off—no buttons, switches, or toggles to bother with. The entire unit consists of a scissors head, motor with clutch mechanism, a long driving cable, a C-clamp with micro switch, and an auxiliary 4-in. switch box complete with wiring so you can plug it right in.

## KNIT-SHOW REPORT (Continued)

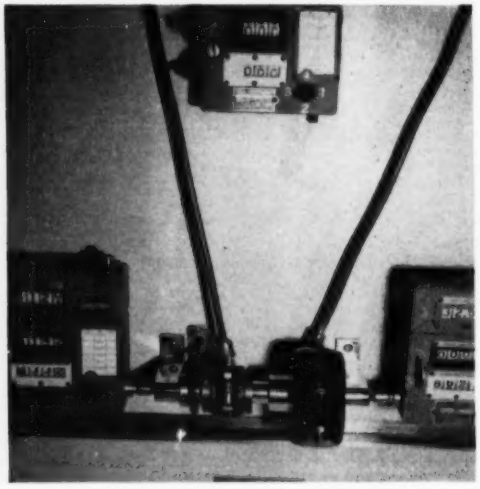
**REACHING INTO THIS TRUCK** isn't half the work it used to be before the V-type slots were cut in the sides. "The V-cuts in the sides of our new piece-goods or bundle truck are going to make loading and unloading lots easier," said Ted Thorsen of Meese, Inc., Madison, Ind. This new truck is the "Shamrock" line that carries up to 40 rolls of 60-in. goods, or an equivalent amount of bundled and cut pieces. Body material of the truck, vinyl-impregnated duck, makes it usable for either wet or dry goods.

► **Alemite "Oil-Mist"** centralized-lubrication systems were installed on knitting machines shown by H. Brinton Co., Edmos Products Corp., and Supreme Knitting Machine Co., Inc.

► **Rib-hole detectors** for both revolving-top and revolving-cylinder rib-knitting machines were shown by Stop-Motion Devices Corp., Brooklyn, N. Y. Holes, drop stitches, or needle runs are detected in the fabric by the fingers revolving with the top of cylinder, mechanically causing the machine to stop.

► **Tying machines** shown at the booth of National Bundle Tyer Co., Blissfield, Mich., included the No. 6 Saxmayer machine for general-purpose packages up to 6 in. high, the No. 9P tyer with automatic bundle compressing of packages up to 9 in. high, and the No. 9F machine that feeds and ties automatically.

**STACKED**—that's what these canvas baskets are. And the contents inside don't have to bear the weight because heavy projections give the sides the load. Canvas baskets that can be stacked as high as convenience permits were shown by W. T. Lane & Bros., Inc., Poughkeepsie, N. Y. Sturdy projections of heavy wire hold the upper box away from the load in the lower one. The stacking basket, available in three sizes, comes in plasticized or plain duck and can be used to store practically any work in process—skeins, cones, piece goods, etc.



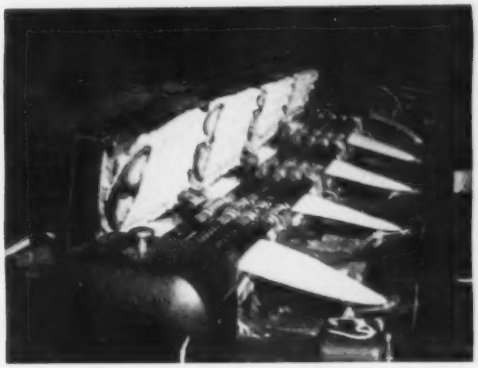
**GRAPHITE IN PLASTIC GEAR HOUSING** means that you don't have to do any lubricating once the installation has been made. Veeder-Root, Inc., Hartford 2, Conn., showed a graphite-impregnated worm housing made of plastic. The housing doesn't need any lubrication after installation and can be furnished for pick counters or hank counters. Another benefit from the new housing is that both counters and connections can now be shipped in the same box because the plastic material is so much lighter.

► **A nylon size-circulatory system** that uses a gravity-feed to the machine, and a pump return through a viscosimeter that compensates automatically for changes in size composition, was featured by S. Blickman, Inc. of Weehawken, N. J.

► **The new conveyor** shown at the Prosperity Co., Inc., booth in conjunction with that company's Model 160-PCK knit-goods press was built by Utica Novelty & Mill Specialty Co., Utica, N. Y., an exhibitor at the show.

► **A new Veeder-Root** "Substractive Predetermining Counter" was part of the equipment shown as standard on the new LA-12 circular jersey and links-and-links machine exhibited by Jacquard Knitting Machine Co., Inc.

EIGHTS-ENDS-UP drawing, four deliveries per frame, delivers one-process sliver ready for the slubbers. Two lines of frames front each other so that only finished drawing is doffed in the alley between the two lines, thus guarding against mixed drawing.



THE IDEAL-SYSTEM ROLLS are larger in diameter and 4 in. longer than the old metallic rolls that were discarded. Ball bearings throughout the roll and gearing system permit higher roll speeds and reduce the oiling necessary to keep the frame well lubricated.

# *Eight-Ends-Up* DRAWING *Cuts Labor Cost 57%*

- New drawing puts through as much sliver with 8 tenders as old drawing did with 14.
- Sliver variation is now 15%, where it used to be 33%.
- Over half the floor space formerly required is now used for something else.

EIGHT-ENDS-UP DRAWING made it possible for Firestone Textiles, Gastonia, N. C., to improve its drawing on a one-process basis over the old two-process drawing. Sliver variation was reduced from 33% to 15% and roving variation from 42% to 36%.

Eight drawing tenders now process the same amount of sliver that 14 tenders processed on the old setup. Floor space required for drawing frames was reduced from 12,500 sq. ft. to 5,800 sq. ft.

Prior to 1950, this mill ran an extended trial run of 48 deliveries of change-over rolls installed by Ideal Machine Shops. Results were so good that in 1950 they changed over their whole drawing installation from six-ends-up metallic-roll two-process drawing to Ideal's eight-ends-up one-process system.

**Comparative Performance of the New Drawing Over the Old**

| | Old Drawing | New Drawing |
|---|---|---|
| Deliveries Required | 552 | 265 |
| Tenders per shift | 14 | 8 |
| Floor space required (sq. ft.) | 12,500 | 5,800 |
| Sliver variation per yd. | 33% | 15% |
| Roving variation per yd. | 39% | 30% |
| Yarn break factor | 2,325 | 2,310 |

## Changeover Details

The change-over consisted of new top and bottom rolls and bearings, new calender rolls and bearings, and new gearing throughout. It was necessary to replace top and bottom clearers also. Ball bearings are used throughout on the present frames, and oiling is required only at infrequent intervals. Prior to this change-over, it was necessary to oil frames each shift.

The old metallic top and bottom rolls were equipped with collars that separated the flutes of the top and bottom rolls to keep the flutes from enmeshing completely. At times, however, these collars wore so much that they allowed the flutes to mesh deeper than was necessary and caused a grinding action against the sliver.

The new drawing rolls do not have this collar but are made with a stationary ball bearing on both top and bottom rolls. These ball-bearing sleeves do not revolve and are made so that they form a permanent separation that will not wear.

The bosses of the rolls are over 10 in. in length, compared with the 6-in. boss on the old-type metallic roll. This boss enables the rolls to satisfactorily run the eight-ends-up instead of the usual six. The sliver is spread out on the surface of the rolls, insuring no crowding or doubling-over in drafting and resulting in a more uniform sliver.

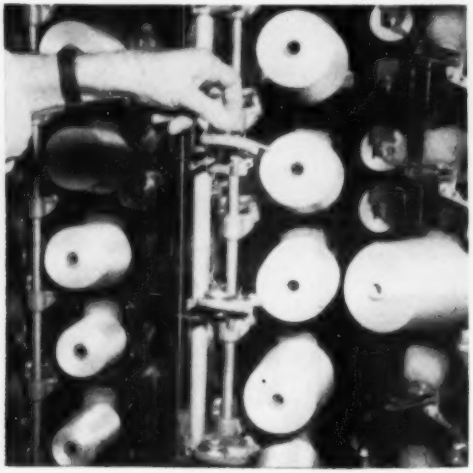
THE AUTOMATIC SPOOLER, a Sipp-Eastwood model, is being operated on Bemberg yarns by Pearle Jordan.

THE HIGH-SPEED WARPER operates at 350 yd. per minute. Beulah Baker is preparing a section beam that is to be doffed.

# *How National Weaving Co. Weaves*
# *LOW-TWIST BEMBERG YARNS*

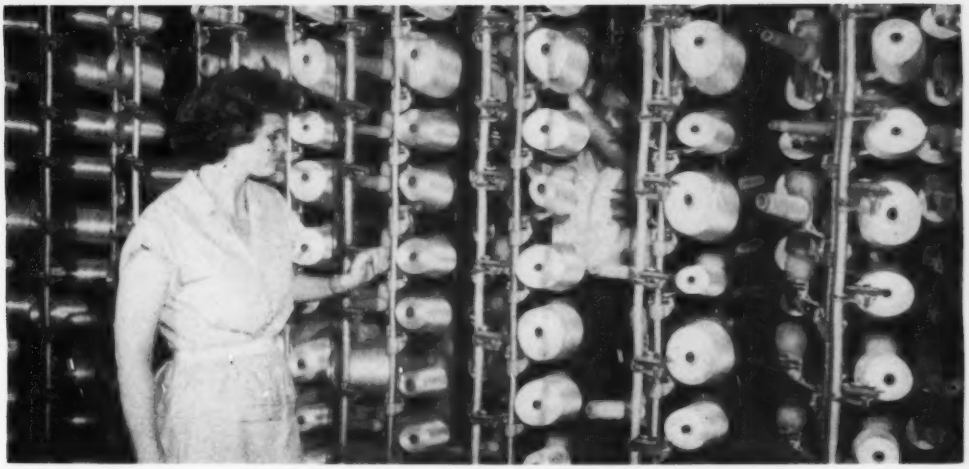
► 90% of all the cloth woven at National Weaving contains some type of Bemberg yarn. 60% of the weight of all woven cloth is made up of Bemberg yarns. This article shows how conventional filament-rayon machinery is set to make fragile fabrics.

**By J. RAYMOND FISH**
Plant Manager
National Weaving Co., Div. of Beaunit Mills



THE TENSION DEVICE on this warper creel is set at 12 to 15 g. on Bemberg yarns and 10 to 12 g. on acetate yarns.

COCKER AND JOHNSON slashers are used on Bemberg yarns. H. F. Faulkenberry is the slasher tender on this Cocker machine.



**OUR CREELS** and warpers are manufactured by Sipp-Eastwood, but any warping equipment that is suitable to process any filament-rayon yarn can be used with equally good results. Pheba Grant and Addie Smith are creeling this machine.

NATIONAL WEAVING CO., Lowell, N. C., is weaving fabrics of filament rayon and spun rayon. Combinations of filament- and spun-rayon fibers are woven into novelty-effect fabrics that are finished in a variety of colors, checks, and stripes.

Bembergs are handled with the same methods, generally, that are used on any filament-rayon fibers. We have developed a few manufacturing methods that make it possible to weave sensitive yarns into first-quality cloth at a satisfactorily high production rate.

We will use our present methods on any filament-rayon yarns that we might run in the future, and we believe that the little extra attention we give our yarns in the preparation department results in better fabrics.

### Heat the Storage Room

All yarns are stored in the original cases in our warehouse with a minimum temperature of 50° F. at the normal variable-humidity condition.

### Warp the Yarns Under Even Tension

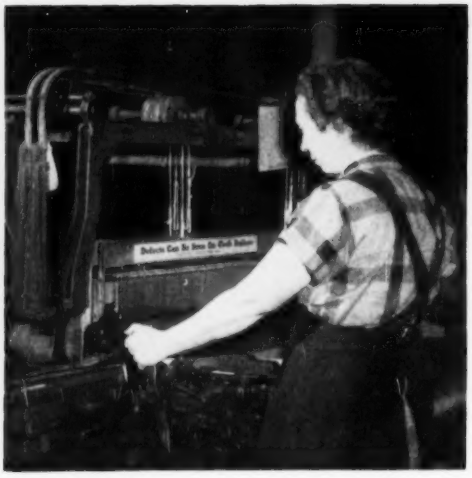
We remove the covers from the packing cases in the warper room at a 65% relative humidity reading and at a room temperature of 80 to 82° F. The cases are left open for 24 hr. before they are used.

Our warpers and creels are manufactured by Sipp-Eastwood, but any warping equipment that is suitable to process any filament-rayon yarn can be used with equally good results.

**A SPLIT ROD** between the squeeze rolls and the back cylinder helps to slash good warps at National Weaving.

**EIGHT AND NINE-INCH** bobbins are used in the quilling department. Loey Bell Hoffman doffs a full bobbin.

ABBOTT QUILLERS may be used with excellent results on Bemberg yarns. Carolyn Funderburk is placing full bobbins on the pin board.



DRAPER CAM LOOMS are weaving Bemberg yarns of 75 den. into cloth of 120 sley by 84 ppi. Inez Pope operates 58 to 72 looms.

On Bemberg yarns we usually use double the amount of tension at the creel that we would use on other yarns.

On a Bemberg warp of 75/45, 5 tpi., we use 12 to 15 g. of tension. The tension on the whiproll at the warper is 18 to 20 g.

The yarns should touch the creel and the warper in as few places as possible. For example, we use no eye boards or excess rollers.

These tension settings will result in approximately the same amount of warping tension as that of other yarns.

The warper runs at a speed of 350 ypm.

## Use the Size at Room Temperature

Slashing is more important in the manufacturing of Bemberg fabrics than any other process.

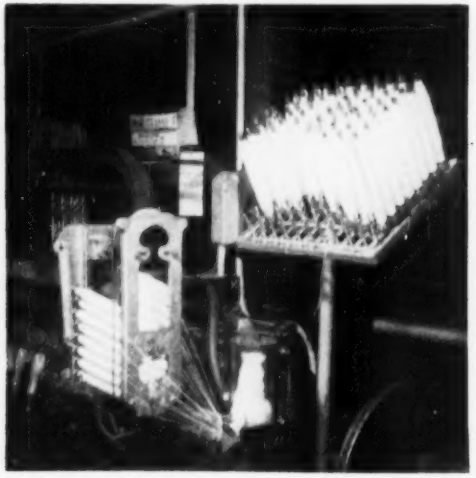
We use Elvanol 51-05 in a sizing mixture that is recommended by the manufacturer.

The sizing is run in a size pan at room temperature. All the heated cylinders should be covered. The surface heat of the cylinders from front to back should be: No. 1 cold, No. 2 cold, No. 3 170°, No. 4 180°, No. 5 200°, No. 6 210°, and No. 7 210° F. If cylinders are run uncovered, the surface heat of any slasher should not exceed 190° F.

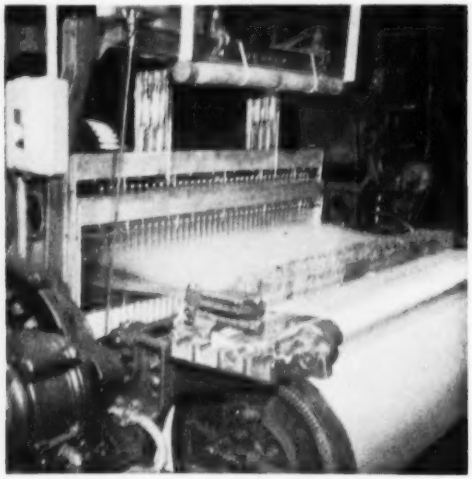
The slasher should be run at 35 ypm. on a 6,000-end, 75-den. yarn. The weight of the squeeze roll should be 900 lb.

The stretch should not exceed 1%.

(*Continued on page 252*)



A LARGE FILLING PACKAGE is run on 9-in. quills on (C&K) S-6 looms. The filling is 75/45 with five turns per inch.



NUMEROUS PATTERNS ARE WOVEN on Draper looms equipped with dobbies. Stop-motion stand is pushed back to take strain off yarn.

# The dyeing of Orlon acrylic fiber

**has followed a pattern similiar to other synthetic fibers. Methods for applying available dyes to Orlon have been developed and then superseded by more efficient ones, originating through mill experience and continued laboratory investigations, ever since the fiber was first made available.**

**Previous descriptions have been available on the dyeing of Type-41 Orlon acrylic staple with acid dyes through the use of copper sulfate plus reducing agents, such as Sulfoxite C or Sulfoxite S Conc. At that time, this process was the best available even though consistently satisfactory dyeings were difficult to produce.**

**The methods described here are felt to be superior to the Sulfoxite type process.**

# *Revised Cuprous-Ion Method Eases ORLON DYEING Problems*

**▶ Hydroxylammonium sulfate, a new reducing agent, also serves as a cuprous-copper reservoir and prevents precipitation of excess elementary copper.**

**▶ Heavy shades, including black, with good exhaustion are obtainable on practically all types of raw-stock and top-dyeing equipment. Off-shade redyeing is possible.**

**▶ Higher-than-212° F. dyeing and the use of a suitable carrier are recommended especially for dyeing Type-81 Orlon acrylic fiber in the heavier shades.**

A NEW REDUCING AGENT has recently been evaluated that eliminates much of the difficulty encountered when using Sulfoxite-type products in the dyeing of Orlon acrylic fiber.

This new agent, hydroxylammonium sulfate, not only acts to convert cupric copper to cuprous copper but serves as a reservoir for the cuprous copper as it is formed. This prevents excessive quantities from developing in the dyebath and thereby precipitating elementary copper.

Cuprous copper is the active form that fastens dyestuffs to Orlon acrylic fiber. Through control of the pH of the dyebath, it is possible to regulate color absorption and to obtain heavy shades, including blacks, with good exhaust on practically all types of raw-stock and top-dyeing equipment.

Mill trials have also indicated that additions can be made to the dye-bath and that stock can be redyed if it comes up off shade.

*Condensed from a technical bulletin recently distributed by the Du Pont Co., Organic Chemicals Dept., Dyestuff Division, Wilmington, Del.*

## Dyeing Methods

A recommended formula for dyeing type-41 Orlon staple with acid colors has been developed from laboratory trials in a 1-lb. circulating machine as well as trials in a variety of mill equipment, as follows:

| | *Heavy Shade* | *Medium Shade* | *Light Shade* |
|---|---|---|---|
| Copper sulfate | 10.0% | 5.0% | 2.5% |
| Hydroxylammonium acid sulfate *or* Hydroxylammonium sulfate | 8.0% | 4.0% | 2.0% |
| | 4.0% | 2.0% | 1.0% |
| Color | X | X | X |

The procedure to follow consists of seven steps:

1. Wet out stock at 140° F.
2. Add dissolved copper sulfate and circulate until a uniform distribution is obtained.
3. Neutralize the hydroxylammonium acid sulfate or hydroxylammonium sulfate to a pH of approximately 5.0-6.0 (not over 6.0) and add to the dyebath.
4. Circulate until uniformly distributed.
5. Add dissolved color.
6. Raise to the boil in approximately 15 to 20 min.
7. Boil 1 hr. and sample.

To make an addition in case of off shade:

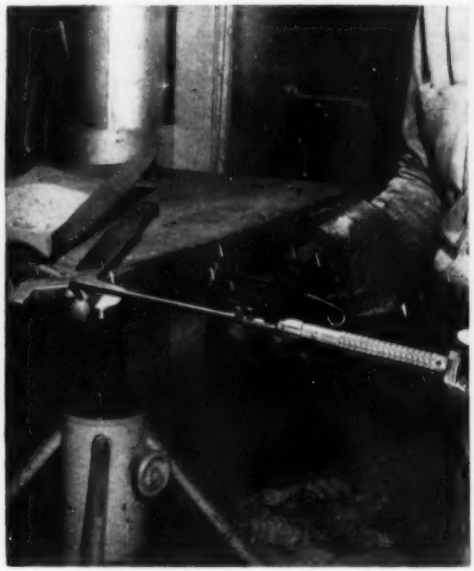
1. Cool the bath to 180°-190° F.
2. Add dissolved color.
3. Circulate for uniform distribution.
4. Raise to the boil and run 30 min.
5. Sample.

The following considerations should be kept in mind:

1. The quantities of copper sulfate and hydroxylammonium sulfate or hydroxylammonium-acid sulfate will depend upon the depth of shade to be

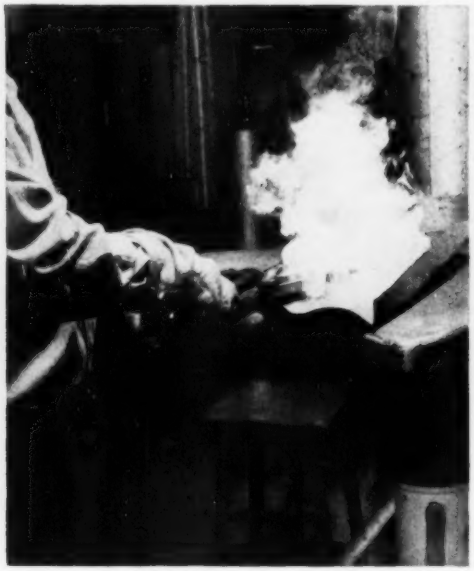
(*Continued on page 254*)

**HEAT . . .**



**1.** THE FIRST OPERATION in hardening an open-end wrench with a typical hardening compound is to heat the wrench jaws in an acetylene flame. The wrench is made of low-carbon boiler plate.

**FUSE WITH COMPOUND . . .**



**2.** THE HOT JAWS are then rolled in the compound to pick up a coating that fuses into the metal when the wrench is reheated. With other compounds, the part is coated before it is heated.

# *It's Easy To* CASEHARDEN *To Increase*

**HIGHLIGHTS:** New casehardening compounds make it convenient for mill shops to harden steel in a few minutes—Tools, small steel parts, sprocket drives, etc., are possible applications—Process consists of heating, coating, fusing, and quenching.

**By PHILIP O'KEEFE**

CASEHARDENING IS A PROCESS USED on steel to impart a hard, wear-resistant surface to parts. It is used where high hardness, strength, or wear resistance is required. To be successfully casehardened, a part must have a core tough enough to resist shock.

A number of casehardening methods are used on parts for textile machines and mill equipment, but until now the process has been confined to metal-working plants and original equipment manufacturing. In general, special equipment was required, and the use of casehardening in ordinary mill maintenance was impractical.

Several fast-acting casehardening compounds that impart hard, wear-resistant surfaces to ordinary low-carbon steel parts, without the use of special equipment, have recently been developed. The compounds are easy to use; only the simplest shop tools are needed.

The entire process, which takes only a few minutes, consists of heating the part, coating it with a paste or powder, fusing the coating for a few seconds, and quenching. The steel can be heated in a gas torch and quenched in a pail of water or by water splashed on it.

### What To Casehарden

There are many possible applications in a textile mill for these compounds. Small ratchets and pawls, truck coupling pins, and small tools made for special or emergency purposes are typical applications. Connecting pins

## . . . AND FINALLY QUENCH

*Photographs courtesy of Doughty Laboratories, Inc.*

**3. THE HOT COATED JAWS are finally quenched in water or brine to give a hard surface over a tough, ductile core. The handle of the wrench, which may be hammered in use, is not hardened.**

# *Life of Steel Parts*

for emergency repairs on boil-offs and dry-box conveyor chains in finishing mills can also be treated.

Other possible applications include drive sprockets and driven ends of center bars. Because of the danger of oil stains, many high-speed sprocket drives cannot be lubricated as well as they should be. If the small sprocket is surface-hardened, the life of the drive can be prolonged.

These hardening compounds are especially important today in view of the shortage of practically every type of steel and steel product. It may take weeks to replace a high-grade steel-alloy part that breaks in service. A workable substitute can often be machined out of low-carbon steel treated with a hardening compound.

These hardening compounds are essentially carburizing agents. Special activators are added to make the impregnation process more rapid than it is with regular production pack-hardening compounds. Enough carbon must be put into the surface in the few seconds or minutes the compound is fused into the hot steel to give high hardness on quenching. Some of these compounds also contain ammonium compounds to give a nitriding effect in addition to carburizing. A small amount of chromium is also added to the surface metal by the same compounds.

Casehardening will be used in mills mainly with medium and low-carbon steels, from 1,010 to 1,050. These steels are easy to machine and fabricate and are relatively easy to get. The low and medium-carbon steels also benefit most from carburizing. A low-carbon steel can be brought from a Brinell hardness of 127 up to 600 by one treatment.

### How It's Done

The case produced by a single application of one particular compound and a short heating is comparatively thin, varying from 0.004 to 0.006 in. in depth. This depth can be increased by repeating the process or by prolonging the heating time. Another compound gives a coating depth of 0.010 in. with one application and a heating time of 5 to 7 min.

The procedures vary with the compound used. With a typical formulation, the process includes five steps:

1. The piece is heated in a torch, forge, or furnace to a cherry-red color, between 1,500 and 1,700° F. An electric furnace or an induction coil may also be used.
2. The hot piece is dipped or rolled in the compound to pick up a coating.
3. The coated piece is taken out of the compound, and the coating is allowed to fuse on the hot metal and form a crust.
4. The piece is then reheated to cherry-red temperature to fuse the compound into the steel.
5. The piece is quenched in cold water or brine. Larger objects can be quenched by splashing or pouring water over them.

With other compounds, the steel is coated before it is heated and the piece is kept hot for a matter of minutes rather than for only a few seconds. Another variable is the quenching medium used. The quenching mediums and procedures are of most importance with high-carbon and alloy steels, and the ordinary low-carbon grades used for mill-maintenance work can be safely quenched in cold water.

### —But There Are Limitations

There are limitations to these new preparations, of course. They are expensive in comparison to production-process pack-hardening compounds. The cases they give are also somewhat limited in thickness, and the advantage of their use in mass production of most parts is doubtful.

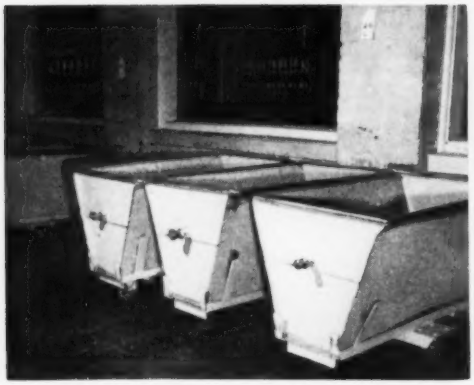
The simplicity of their use is a big compensating factor in textile maintenance shops, though. It should also be noted that it is rather simple to selectively caseharden parts with these compounds, since only the surfaces to be hardened need be treated. Parts like sprockets and pins are relatively difficult and expensive to handle in production pack-hardening.

In estimating the true cost of the compound, the engineer should balance the price of the preparation against the expense and delay of getting a new factory-hardened part or special alloy part.

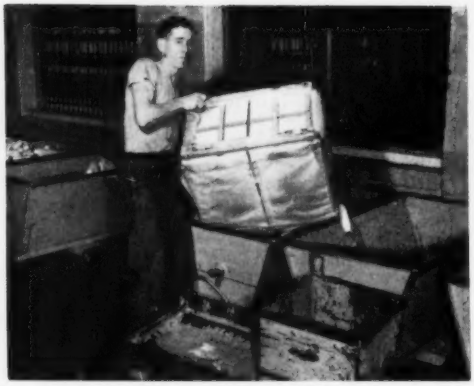
A recent application illustrates the convenience of the treatment.

A large chemical processing plant used a fan to draw dust-laden air out of a room. The dust particles were small but very abrasive. The fan was a standard model with regular blades, and the dust wore the sheet-metal fan blades rapidly. A set of blades treated with one of these hardening compounds was an almost perfect solution.

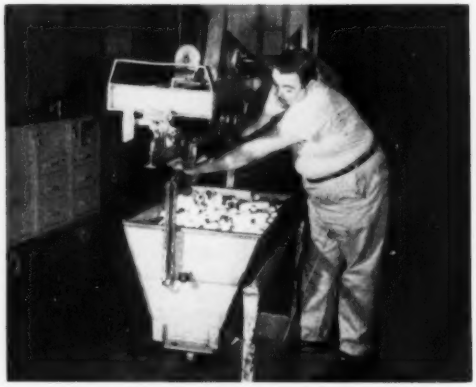
In this case, the cost of the compound was a drop in the bucket compared with the inconvenience of replacing fan blades periodically.



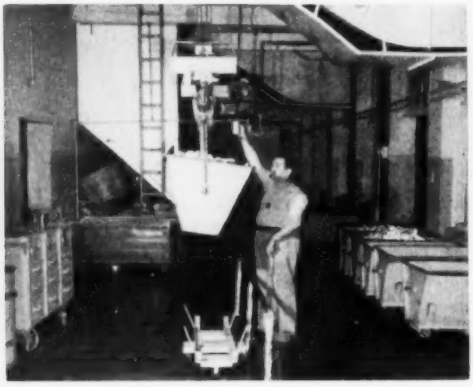
**1** SPECIAL YARN TRUCKS are grouped just outside the spinning room according to yarn numbers. These three are for 26s, according to the tag on the wall.



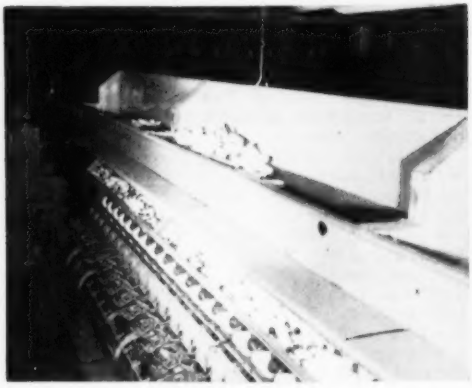
**2** DOFFER WHEELS HIS TRUCK alongside and dumps his doff in the V-shaped truck. Each truck handles two and a half doffs—about 630 bobbins.



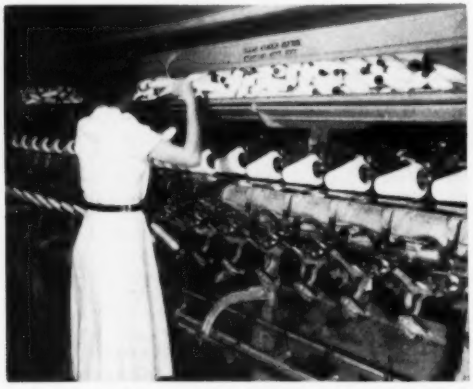
**3** AFTER WHEELING THE TRUCK into position, the yarn man hooks the conveyor dolly onto each side of the truck. A positioning rail set in the floor assures him that he's under the dolly.



**4** UP SHE GOES! A flick of the switch and the truck, less its wheels, is hauled up for the journey into the winder room. Hoist automatically stops when the truck gets to the top.



**7** THESE SPECIAL HOPPERS cause the oldest yarn to be used first; and because it has had less handling, yarn is in better condition. Removal of overhead cleaners raised cleaning time 5%.



**8** IT'S AN EASY REACH for the winder operator. The hopper is divided lengthwise so that different yarn numbers can be run on each side of the winder.

# How One Man Feeds 11 Foster Winders

By JAMES H. KENNEDY, Southern Editor, TEXTILE WORLD

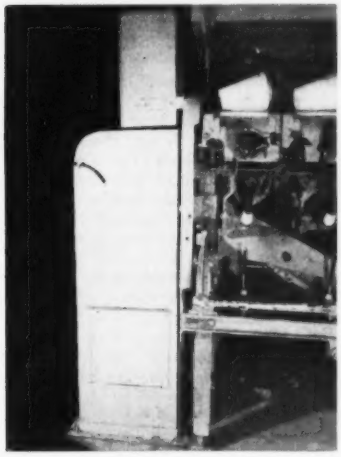
**▶ At Avondale Mills, Sylacauga, Ala., one man—with an efficient yarn-handling system—is keeping 11 Foster winders supplied with yarn. The yarn numbers range from 24s to 30s, and winder production is 450 yd. per min. Without the handling system, the mill would need three men to keep up with the winders.**

This yarn-handling system was developed at Avondale Mills and has been patented by Werner Textile Consultants.

J. H. Pasley, superintendent, has worked with the system since its inception and has this to say about it, "One person is doing a job with this system that normally would require three men. In addition to more efficient handling, our quality has improved."

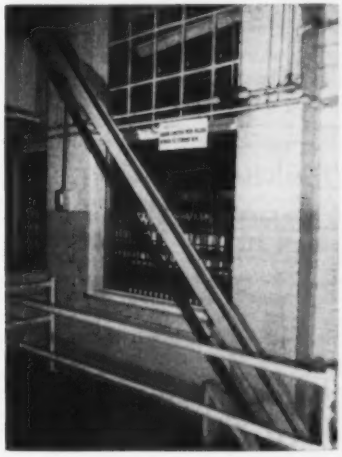
**5** THE TRUCK HAS BEEN CARRIED to the winder room, and the yarn man pulls a chain that directs the yarn to the winder that needs it. A spur track runs along the top of each row of winders.

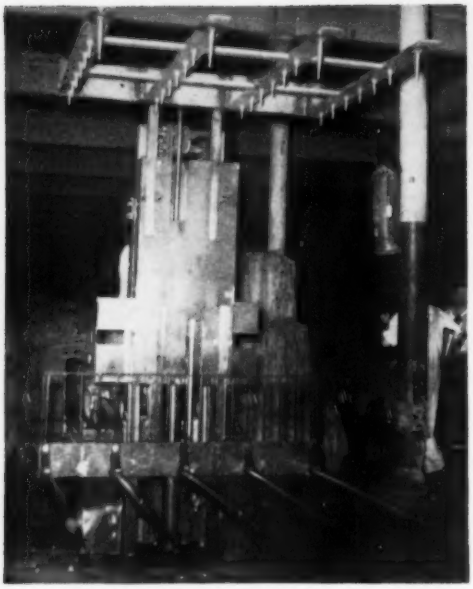
**6** USING A LONG HOOK, he tilts the truck to empty it. One truckload fills the hopper the width of the truck, and six truckloads fill one side of an empty winder.



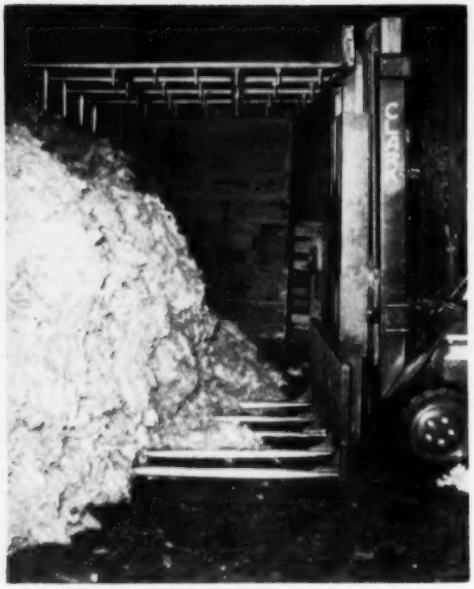
**9** INSIDE THIS BOX is the hopper for the conveyor belt that takes care of the empty bobbins. The system is enclosed, but there's a door in the side to allow for checking in case of chokes.

**10** END OF THE TRAIL for the empty bobbins is this section of the conveyor that deposits them in a storage bin. Spinning doffer fills his bobbin box from the overhead bin after emptying his doff.





**JAWS CAN TAKE AN 8-FT. BITE.** That rack above the bottom tines sweeps forward any loose wool as the truck moves into a pile of wool. This arrangement not only makes it easier to really clean out a bin, but it also prevents loose wool from being run over by the truck.



**AS THE TRUCK DRIVES FORWARD,** the lower tines slip under the wool and the upper forks clear the top. The tines on the front section of the upper forks are longer than the others in order to hold the wool better in transit and to insure a clean break when the bite is taken.

# *New* WOOL-HANDLING *Device Saves $20,000 a Year*

**HIGHLIGHTS: Four large worsted mills in New England are using a special lift-truck attachment to handle wool in blending. Not only does the new system save plenty of dollars; but the mills also report better blending, more efficient use of floor space, reduced safety hazards, and neater housekeeping. The device, interchangeable with standard forks or clamps on a basic truck, costs about $2,600.**

**By MICHAEL J. KOROSKYS**
Assistant Professor, Wool Department, Lowell Textile Institute

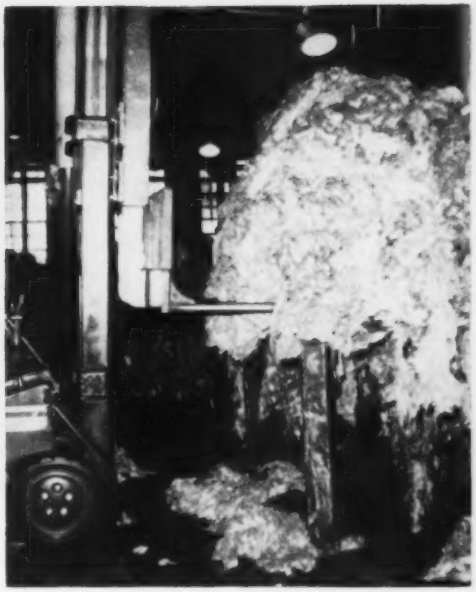
HANDLING GREASE WOOL used to be a pretty messy and a very tough job for a man, and the nature of the job itself often resulted in improper blending. Several New England mills are now using a special attachment on their standard lift trucks to make this task easier, save money, and improve blending.

At the mill where the jaws were developed, wool was sorted directly, through traps, into bins in the floor below. The different wools that made up the blend were put into the bins in layers, and the first blending was based on cutting these layers vertically when the wool was taken from the bins. But the natural tendency of the men that did this job was to roll the wool off the top once in a while — and doing this rolling off the top meant that the value of the sandwich blend was lost.

These men used to fill up trucks with the raw wool and then dump the trucks over floor chutes that fed the wool directly into the hoppers of the scouring bowls. The slotted trucks that the men used held about 500 lb. of wool, and the distance the truck had to be pushed depended upon the blend and the scouring train that was being fed.

Realizing that something should be done to improve this procedure, the mill called in engineers of Brodie Industrial Trucks, Inc., Malden, Mass., who worked out the mechanical method of handling the wool. After trying 12 experimental designs, the engineers settled on the present model. The device, now patented, is

SQUEEZE PLAY IS PULLED by the powerful hydraulic jaws. The compression permits handling of fiber with a normal staple length without droppage. When the load has been broken away from the pile like this, the truck backs away and carries the load to its destination.



UPPER FORKS LIFT AND LOWER TINES ARE WITHDRAWN as the truck backs away to complete unloading. You can see that the wool is in the same vertical cross section as before and the uniformity of the blend has been preserved.

being manufactured by Clark Equipment Co.

### How It Works

The improved method, a lift-truck attachment, grabs up to 750 lb. of fiber, carries it to the chutes, and unloads directly into the chutes. There is no more manual handling or trucking.

*Loading.* First you raise the toothed upper jaw of the clamp to get the maximum size of bite. The opened jaws can then be elevated to bite wherever you want — the top half of a 16-ft. pile, for instance, or all of an 8-ft. pile.

The next step is to drive the truck forward and penetrate the pile with the lower tines. The upper forks always have to clear the top of the pile. The wool is then clamped between the jaws, and the load is raised to cut the blend and take advantage of sandwiching. The tight bite and vertical motion insure a clean break with the rest of the wool.

After the bite has been made, the truck is backed away, the load is lowered to the desired carrying height, and off you go to the unloading area.

*Unloading.* After you reach the place where you want to unload — be it an open floor or a chute — all you have to do is position the load, raise the top half of the jaws, and withdraw the lower tines as you back the truck away.

If you unload into a chute, the opening should be about 2 ft. larger in length and width than the load of wool you are carrying. The lower tines are lowered to the chute rail, and the truck is backed away to release the load.

You can use the device to load hoppers also if you modify the hopper a little bit to receive the load of wool.

The modified hopper should be more square than rectangular and should be funneled into the original hopper. If the load of wool is 6x6, the hopper should be at least 8x8 at the top.

You can unload directly onto the floor too, if you want, because the weight of the wool holds it in place as you withdraw the lower tines, and the squeeze that the wool got makes the pile neat and firm — not a big mess on the floor.

### Either Gas or Electric Trucks Can Be Used

As is usually the case, the truck you select will have to have the specifications that fit your installation. If you're going to use the truck in a

(Continued on page 230)

## Not for Wool Alone

**This device can be used for any fibers that require blending by the bin or sandwich method. For that matter, even if the problem is not blending, the new attachment can be used for any bulk handling of wool or other fibers — or for blends. You can use it with scoured wool, to feed card hoppers, to handle wastes, for matchings or sorted wools — in any number of ways. The jaws can be modified to handle any combination of fibers.**

**You can pick up from 250 to 750 lb. of wool from a pile, bin, or other area. And you can unload onto the floor, into a chute, into trucks, or in hoppers.**

**Openings of chutes or hoppers, for best results, should be equipped with funnel-shaped tops for quick and easy unloading.**

**Table I -- TYPICAL PROCEDURE FOR DYEING DYNEL SOCKS**

ASSISTANTS: All percentages are based on the weight of the material.

| | |
|---|---|
| **Dyeing:** | |
| Wetting Agent | 1.0% |
| **Relustering:** | |
| Sodium sulfate (anhydrous) (Not necessary for pastel shades.) | 80.0% |
| **Scouring:** | |
| Soap flakes | 2.0% |
| **Second scour—(Where necessary)** | |
| Soda ash | 2.0% |
| Sodium hydrosulfite | 2.0% |
| **Finishing:** | |
| Amide PES* | 1.0% |
| Wetting agent | 1.0% |
| Glyoxal solution* | 1.0% |

*Carbide and Carbon Chemicals Company

**DYEING AND FINISHING PROCEDURE**
**Bath Ratio 30:1**

1. Draw 25 to 50 gal. of water into the dye machine and add one-half of the wetting agent.
2. Add the dyestuff previously pasted with one-half of the wetting agent in warm water. Boil for 1 to 2 min.
3. Fill the machine with water to the dyeing level.
4. Add the dry goods and raise the temperature to 206 to 208° F. Run for 45 min.
5. Add the sodium sulfate slowly, and run an additional 45 min.
6. Shut off steam (while running) to allow the temperature to drop to 190° F.
7. Cool slowly, by adding water, to 140° F., drop bath and rinse.
8. Scour at 170° F. with 2.0% soap for 10 min., cool and rinse.
9. Paste the Amide PES and wetting agent (while heating). Dissolve with boiling water and then add to the bath at 170° F. Run for 10 min.
10. Dilute glyoxal with cold water and add to the bath. Run an additional 15 min., cool, drop bath and rinse.
11. Centrifuge and then air dry or tumble, at 170° F. or lower, to dry.

# You Don't Need Special Equipment To Make DYNEL HOSIERY

**▶Standard equipment, small changes in adjustments and techniques, and a minimum of judgment and common-sense are all that you need to run dynel in a hosiery mill.**

By **BENJAMIN MICHALKO**
Technical Service Lab., Carbide & Carbon Chemicals Co.

MEN'S HOSIERY, one of the most important uses of dynel, is one to which the fiber contributes many valuable sales advantages. Rapidity of drying, long-wearing qualities, resilience, resistance to moths, dimensional stability, and cashmere-like hand all contribute to the popularity of socks made from dynel. In addition, they are now being produced in a variety of wash-fast, bright colors that should sell easily.

In making dynel hosiery, the manufacturer can use standard equipment, and manufacturing procedures vary but little from normal practice. Dynel yarns are available from spinners in sizes ranging from 4/1 to 50/1 cotton count, giving the knitter good flexibility in his hose construction. The yarns as received are properly lubricated. Elastic-top socks and half hose are being successfully knit, piece-dyed, and finished from natural yarns. Argyles and slipper socks are being made from package-dyed yarns.

## Knitting Presents Few Problems

Many different machines have been employed for the knitting of dynel socks. Among these are the 108-needle Hemphill, the 84-, 132-, 168- and 200-needle "Komets," and the Banner reverse-plating machine. The customary adjustments of tensions at the start of knitting are all that is normally required. Dynel yarns are usually bulkier than the corresponding sizes in cotton, so lighter dynel yarns are used and the construction is made looser.

When knitting machines are set up for dynel, the knitting department should work closely with the dyeing and finishing departments to establish the proper construction. Normally, dynel yarns as received have from 1.5 to 5.0% boiling-water shrinkage, depending on the yarn size, twist, and spinning system used by the yarn supplier. This shrinkage, together with the shrinkage that results from dyeing, requires that the knitting department make proper allowance in the sock construction. Usually the socks are knit over-size from ½ in. to 1 in.

It has been found good practice to have a minimum of two to four courses of cotton or elastic in the top of the welt to aid in boarding.

## Use Nets for Dyeing

Best results can be obtained by dyeing the socks loose in paddle or rotary-type machines. For various reasons, however, it is necessary to resort to netting. When nets are used, one dozen pairs of the medium-to-heavy-weight socks can be loaded per net, while two dozen pairs of the lighter-weight socks can be loaded per net. Either cotton or Orlon nets with ¼-in. mesh may be used. Nets of smaller mesh size should not be used. The key to obtaining dynel socks with a lofty, full hand is to allow them to float freely during all wet-processing steps.

## Dyeing Methods Are Simple

Acetate dyes are being used almost exclusively at the present time for the piece-dyeing of dynel socks. The colors level exceptionally well, have good fastness to washing and light, and are easy to apply.

In a typical commercial dyeing, 25 to 50 gal. of water are placed in the

**Table II -- TYPICAL DYESTUFFS FOR VARIOUS SHADES**

| | |
|---|---|
| **Maize** | |
| Eastone Yellow 6 CN Conc. | 0.10% |
| **Camel** | |
| Nacelan Brown RRD | 0.20% |
| Nacelan Black NR | 0.07% |
| **Light Blue** | |
| Celliton Fast Navy Blue BA (Pr. 232) | 0.75% |
| Acetamine Red R.P. | 0.03% |
| **Gray** | |
| Nacelan Black NR | 0.15% |
| Celliton Fast Violet 6 BA (Pr. 241) | 0.02% |
| Acetamine Red R.P. | 0.03% |
| **Green** | |
| Eastman Blue BNN | 1.5 % |
| Eastone Yellow GN Conc. | 0.75% |
| Nacean Brown RRD | 0.10% |
| **Dark Green** | |
| Eastman Blue BNN | 6.5 % |
| Eastone Yellow GN Conc. | 2.0 % |
| Eastone Orange 2 R Conc. | 0.40% |
| **Maroon** | |
| Celliton Fast Navy Blue BA (Pr. 232) | 0.15% |
| Celliton Fast Rubine BACF (Pr. 238) | 4.0 % |
| Nacelan Brown RRP | 0.25% |
| **Brick** | |
| Eastone Fast Red GLF | 5.0 % |
| Eastman Yellow GLF | 2.0 % |
| **Cordovan** | |
| Artisil Direct Brown RLN | 5.0 % |
| Celliton Fast Red GGA Ex. Conc. (Pr. 236) | 0.35% |
| Celliton Fast Black BA | 1.65% |
| Eastone Orange 2 R Conc. | 0.75% |
| **Navy** | |
| Celliton Fast Violet 6 BA (Pr. 241) | 3.5 % |
| Celliton Fast Black BA | 5.0 % |
| Acetamine Red RP | 0.15% |
| **Black** | |
| Celliton Fast Black BA | 10.0 % |
| Eastman Fast Yellow 4 RLF | 0.5 % |
| Eastone Fast Red GLF | 1.25% |

dye machine and to this is added the acetate dyes dispersed in warm water with a small amount of a detergent such as "Torgitol" Wetting Agent 7. The dye solution is then boiled briefly and made up to volume with cold water. Wetting-out the goods prior to entering them in the dyebath is not necessary. The dry goods are next entered in quantities to give a 30 to 1 ratio and run for 5 min. The bath temp. is then raised to 205° to 208° F. and dyeing continued for 90 min., or until the desired shade is obtained. For heavy shades, 60 to 80% sodium sulfate is added after 45 min.

At the end of dyeing, the goods must be cooled very slowly by cooling the bath to an indicated temperature of 160° F. The cooling step is extremely important. If the bath is cooled too rapidly, wrinkles and creases will form that will not be removed during boarding. In practice, the operator usually cuts off the steam and allows the bath to cool to about 190° F. before adding any cold water, and then it should be added very slowly.

After dyeing, light shades are simply rinsed, while darker shades are scoured at 170° F. with 2% soap for 10 to 15 min. When a higher degree of wash fastness is desired a second scour may be given at 160° F. using 2% soda ash with 2% sodium hydrosulfite.

### Finishing Presents Few Problems

When the goods are properly cleaned up after dyeing, they are finally finished with 1% Amide PES, rendered more permanent by means of glyoxal. The Amide PES finish is specifically for dynel and gives the fabric a desirable hand as well as minimizing its tendencies to develop charges of static electricity. Application of the finish is described in the tabulated "Typical Procedure for Dyeing Dynel Socks," Table I.

After dyeing and finishing, the goods are extracted in a centrifuge for as long a period as practical. Contrary to the usual experience with cotton socks, wrinkles are not set in dynel socks during extraction. The extracted socks may be kept either damp or dry as no harm will result to the dynel. It is preferred, and recommended for best results, that the socks be thoroughly dry before boarding. This drying may be accomplished by simple air drying or by tumbling at 170° F. or lower.

Socks made from ingrain-dyed yarns should not be wet out for boarding.

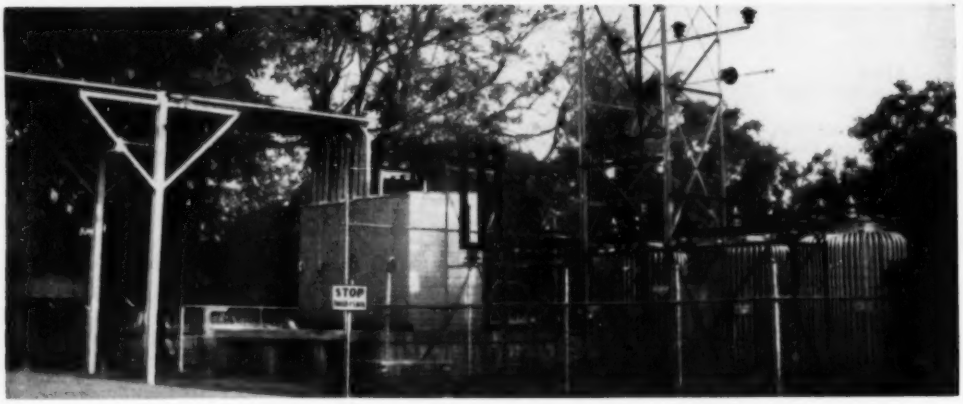
When boarding is done on forms internally heated with steam, the steam pressure should not exceed 5 to 7 psi. When done on continuous machines, operating temperatures range from 215° F. to 235° F. depending on the sock weight. The lighter socks require the lower temperatures. For best results on this type of machine, it is desirable to cool the socks as they leave the oven to prevent distortion by the automatic stripping mechanism. A simple means of cooling, often used, is to direct some of the air from the air conditioning system of the mill onto the forms.

Identification transfers designed for dynel are readily applied to the socks by an experienced operator. Temperatures used for the transfer must be established by the mill. The different transfer manufacturers are regularly producing transfers designed for use on dynel.

The current practices in the dyeing of dynel hosiery are described in detail in the accompanying "typical procedure" (Table I). The dyes used for different shades are shown in Table II. The dyer has a wide latitude in his choice of dyestuffs and is not limited to those given.

**Approximate Knitting Specifications for Extensibility of Socks**

| | | | | | | After Dyeing and Finishing Navy Blue Shade | | |
|---|---|---|---|---|---|---|---|---|
| Yarn Size Cotton Count | Number of Ends Knit | Machine Number of Needles | Boot Extensibility, inches | Boot Length, Inches | Foot Size | Boot Extensibility, inches | Boot Length, Inches | Foot Size |
| 30/2 | 1 | 200 | 8 1/4 | 12 | 11 | 7 3/4 | 10 | 10 1/2 |
| 20/2 | 2 | 168 | 9 | 10 1/2 | 11 | 8 | 9 1/2 | 10 1/2 |
| 14/2 | 2 | 84 | 8 1/4 | 11 1/2 | 11 | 7 3/4 | 9 1/2-10 | 10-10 1/2 |




**AN OUTDOOR SUBSTATION** with outdoor draw-out switchgear, properly protected from the weather, has one big advantage—it doesn't take up valuable floor space that could be used to better advantage for textile processing. Overhead feeders from the switchgear lead off to the left.

# How We Select Mill Low-Voltage SWITCHGEAR

▶ **If you're thinking of replacing your switchgear or if you're having switchgear trouble, this article is for you. It gives pointers on—**

- **How to select the switchgear you need**
- **How to choose a good location for it**
- **Installation points to keep in mind**

**By H. C. UHL,** Electrical Engineering Div. **and J. W. WARD,** Electrical Engineer Avondale Mills, Sylacauga, Ala.

DURING THE LAST QUARTER of a century switchgear equipment has been continually improved. Operating conditions that the switchgear must meet have become more and more severe. Most switchgear equipment installed 25 to 35 yr. ago, while it may have been adequate for the conditions existing at that time, does not meet present conditions.

Individual power plants may then have been in use. Now, they too are usually tied in with large power systems. The power systems have expanded, generating equipment has become much larger, and the power that can be carried at any point in the system (for example, at your plant) has increased materially.

At the time when original switchgear was installed, little attention was given to interrupting capacity on low-voltage systems with transformers intervening between plant and power supply. The systems were usually individual or small. Under these conditions, the interrupting requirements at the time of a short circuit were not nearly so severe as they have become today, and voltage could be expected to drop appreciably even on a short circuit of small degree. This condition saved many switchgear equipments from trouble.

At present, with larger generating stations, better arranged lines of larger capacity, with several points of power feed to give more adequate power or to provide for greater reliability, the switchgear installed 25 to 35 yr. ago is most difficult to keep in service. Serious failure of the old switchgear is inevitable under today's conditions. An attempt to operate such switchgear under present-day conditions is most hazardous and is not justified.

It is necessary to give attention to the problems concerning reliability and continuity of service. We must know what the power system can deliver in case of a short circuit at the point under consideration; for example, the low-tension bushings or buses of the transformers or substations supplying your plant.

## Power Company and NEMA Can Help

The power company supplying the power to which your system is tied can provide the interrupting kva. conditions at the location desired. They will usually provide it in terms of kva. short circuit in symmetrical value, calculated on three-phase shorts at the low-tension bushings of the transformers.

These values take into account the drop in the line voltage of the system at the time of a short circuit and represent the maximum amount of power that can be delivered to a three-phase symmetrical short circuit from the power system at the point designated.

It is necessary to interpret this data properly; and if this is done, selection of proper interrupting-capacity equipment may be made to meet the existing conditions and to make suitable provision for future expected conditions

If assumptions must be made, you will be safe to assume sustained voltage. You would then calculate the symmetrical three-phase short circuit (with short at the low-tension bush-

(*Continued on page 242*)

# WEAVING Problems and Answers— From the Cooleemee STA Meeting

By RICHARD B. PRESSLEY
Assistant Editor, TEXTILE WORLD

## 1.

### Laying Off at the Fork

Our 44-in. X-2 looms, weaving sateen from combed plied yarns for a government order, lay off at the fork. The filling slips out of the shuttle eye. How can we stop the laying off?

Here's what we've done—

We tried tension eyes but had to remove them because they broke the filling.

We run heavy shuttle fur and fur the whole shuttle.

Our picker sticks are set for an 8-in. stroke.

We can't condition the filling because the cloth is shady when it is finished if the filling is conditioned.

Other mills suggested:

a. The use of a small shuttle and a small package of filling.

b. The use of a tension eye.

c. Running a shuttle without a groove cut for the fur in order to place the fur closer to the filling.

## 2.

### Tight Selvages in Spun-Rayon Cloth

Our spun-rayon selvages run tight on the looms. We weave some of the selvages plain and some as tape selvages. What can we do to stop tight selvages?

We've done these things—

Drawn the selvage ends four to a harness eye.

Drawn the selvage ends two to a harness eye.

Reeded the selvages four and two to a dent.

Reeded the selvages three and two to a dent.

We're helped most by reeding the outside 16 ends two per dent the same as the body and reeding the next 12 ends three per dent.

Other mills had not experienced any trouble with tight selvages on spun-rayon cloths.

## 3.

### Draw-Backs in the Warps

We're having seconds caused by draw-backs or warp mats on our X-2 looms. The weavers run 54 looms on cottons and can't get around fast enough to keep out the draw-backs between the drop wires and the harnesses that seem to be caused by wild, loose yarns 1 to 2 in. long. The looms are equipped with both electric and saw-tooth stop motions. The warp yarns are prepared on Barber-Colman spoolers.

Other mills suggested:

a. The addition of a 1-in. round, black lease rod back of the drop wires to split the warp yarns evenly.

b. The use of a vibrating lease rod back of the drop wires.

c. Doubling the drop wires on the electric stop motion so that each warp end would be drawn through two drop wires.

d. Having the Barber-Colman spooler operator break off the tails as the ends are hung.

e. Having the slasher tender use a lighter size.

f. Having the Barber-Colman operator and slasher operator make better warps.

## 4.

### How To Clean Looms

Several mills use these methods:

a. We're getting good results from a portable steam-jig cleaner that we made. We clean the looms now when the warps are out and haven't decided yet if we should clean the looms at every warp out or about every 3 mo. We also cover the lay ends and clean the looms with the warp on.

A chemical is used with the steam in the jig cleaner. The steam does not injure the floor or the loom paint but will ruin the box leathers if they're not covered to protect them.

b. We use a chemical cleaner with water to clean our looms. The high humidity condition makes the lint stick to the loom, and it won't come off without a solvent.

c. We never clean our looms, but blow them off with compressed air each 24 hr. A blow-off man on each shift services one-third of the looms.

The blow-off man wipes the loom arches with a dry rag once each week.

d. We tried to use a steam jig to clean our looms, but the floors were left in such bad condition that we had to quit using the jig.

We blow off the looms at warps out and blow out the drop wires daily.

e. We blow off the backs of our looms on one shift and blow off the fronts the next shift. We also blow off the looms when the warps are out.

## 5.

### How To Weave High-Pickage Cloth

We're trying to weave cotton cloth 116 picks per in. on X-model looms. We have a Roper let-off.

A drag roll has stopped excessive beat-back at the fell of the cloth, but we're running only 75% production on the cloth style. What can we do to make the looms run?

Suggestions from other mills:

a. A rubber-covered take-up roll might help.

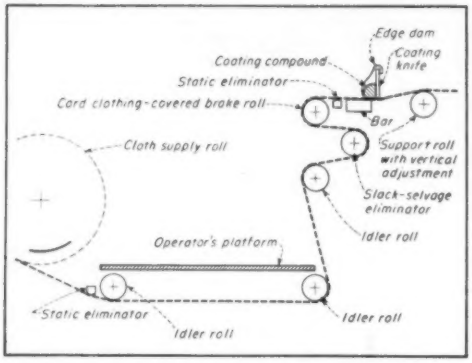
b. Metalizing the take-up roll will help.

c. A nutting bar will help.

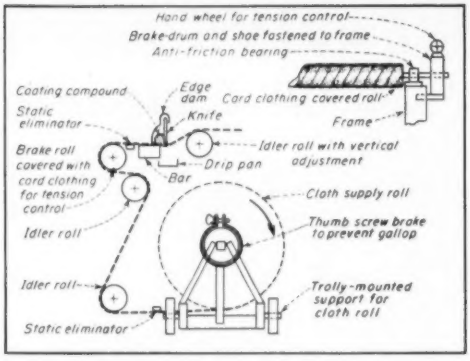
d. Draper makes an attachment that might help you weave the heavy-pickage cloth.

e. Bahan is working on an attachment that might help.

f. We received an attachment last week developed by the Southern Regional Research Laboratory to weave high-pickage cloth but haven't had time to put it on a loom.




PLATFORM OVER IDLER ROLLS allows operator easy access to the work and permits removal of the supply roll to a better location.




TYPICAL FLOATING-KNIFE SET-UP shows use of idler roll, covered with card clothing, on which is a brake drum for tension control.

## For Efficiency and Convenience, Choose Your Technique from These

# *Methods of Cloth-Handling in* FABRIC COATING

**▸ For simplicity and good results you should fit your coating set-up with one of these accepted cloth-handling methods.**

By **THOMAS J. KERR,** Coated Fabrics Consultant

A GREAT VARIETY of methods for delivering cloth to the coating head have been used, and it is doubtful that any two plants do this in exactly the same manner. In general, the principles are the same, but such factors as available space, head room, type of fabric to be coated, type of coating head used, and whether coating is a batch or continuous process, are the factors that determine the details. Naturally, the equipment is more complicated for continuous operation.

### Arrange Equipment for Convenience

In the batch operation, the cloth is handled in rolls, and the coater is stopped at the end of each roll while a new roll is sewed on. In some installations, the batch roll is mounted on brackets attached to the frame of the coating head. If the rolls are large, this set-up makes it difficult for the operator to work since the bulk of the roll is directly in front of the equipment.

The difficulty can be overcome by mounting the roll in back of the coating head, if there is enough head room, and bringing the cloth around underneath to deliver it to the knife. One serious objection to this method is that any coating compound that may be spilled will fall on the cloth beneath the coating head, making it necessary to stop and clean up such spillage, since it will be transferred to the supporting rolls and will mark-off in a repeat over many yards. Installation of drip pans will prevent this trouble if space is available.

### Provide for Tension Control

In knife coating particularly, the cloth must be delivered under constant tension. This tension must, however, be a controlled variable since the tension applied affects the characteristics of the coating, such as the quantity applied and the degree of penetration. Tension must also be uniform across the piece. Uneven coating is the result if this is not maintained.

In roller coating, tension must be controlled to the extent that the cloth is delivered to the rolls in a uniform manner, but the tension is not as critical as in knife work. In all types of coating, the cloth must be flat and free of wrinkles and creases.

The simplest and one of the most common methods of controlling the tension is by means of a brake drum on the bundle bar of the batch roll. The degree of tension is governed by the operator varying the pressure on the brake shoe. Many installations have an idler roll covered with card clothing, with a brake drum on the end of the roll shaft in addition to the brake on the bundle bar.

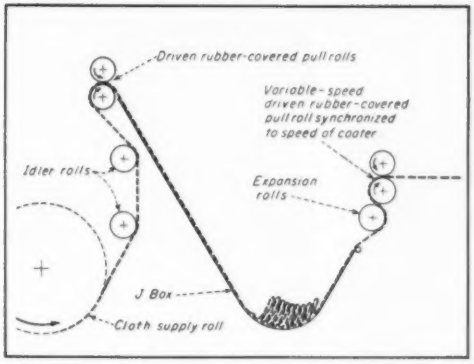
Only enough tension is applied to the batch roll to keep it from galloping. The balance of the braking action is applied and regulated by the brake on the idler roll.

### Use Automatic Controls If You Can

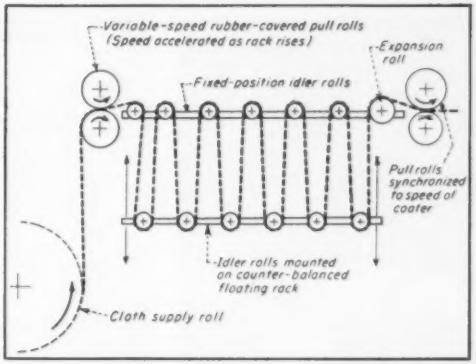
Hydraulic or electrically operated mechanisms can be used to give very exact control of tension. These are generally found in installations for continuous coating rather than in those designed for batch operation.

One of the most efficient of the electrical controls consists of a counterbalanced floating roll that activates a brake by means of a photoelectric-cell circuit. Variations in tension raise or lower the floating roll. The degree of tension may be varied by changing the weight on the counterbalance.

For a less expensive control, the floating roll can be set up to operate




ACCUMULATION OF CLOTH in a J-box between the cloth roll and the machine allows time for sewing on a new batch.


Variable-speed rubber-covered pull rolls (Speed accelerated as rack rises)
Expansion roll
Fixed-position idler rolls
Pull rolls synchronized to speed of coater
Idler rolls mounted on counter-balanced floating rack
Cloth supply roll

FLOATING LOWER-ROLLS allow an accumulation of cloth with constant tension, a most efficient set-up.

against a spring balance. Then the operator can maintain tension by adjusting the brake to keep, as near as possible, a constant reading in pounds on the balance.

The fabric must be supported at regular intervals to avoid the formation of slack wrinkles. A supporting roll is located on the frame in such a manner that the cloth travels a maximum distance around it before going over the brake roll. This arrangement serves to assist in eliminating wrinkles and to deliver the cloth smoothly to the coating knife.

Many installations also include expansion rolls, spreader rolls, or bars in front of the coating head to assist in obtaining uniformity of the cloth surface. Bowed bars have been used to compensate for tight selvages. The Mt. Hope slack-selvage eliminator is very useful for this purpose.

### The J-Box Is Useful

The most prevalent method of continuous coating involves the use of a scray or a J-box, or employs the principles thereof. Here the cloth is pulled from the supply roll by a pair of squeeze rolls located at the top of the J, is allowed to accumulate in the J, and is then pulled from the box by a pair of rolls that are synchronized to the speed of the coating machine. The speed of the first pair of J-box pull-rolls must be slightly faster than the coating machine. This set-up permits cloth accumulation so that the pull-rolls can be stopped while a new supply roll is sewed on.

In a simpler but less efficient method, a small J-box with a single pair of squeeze rolls mounted on the discharge end is used. With this set-up, the cloth is pulled over the box by the squeeze rolls. As the time of roll change approaches, the operator slows down the coating machine and pulls a sufficient quantity of cloth into the box by hand to allow time to sew on the next roll.

### Floating-Roll Accumulator Is Efficient

The most efficient method of obtaining continuous coating involves the use of an accumulator consisting of a series of fixed and floating rolls. In this installation, the cloth is pulled from the feed roll by a set of squeeze rolls and into the accumulator.

The accumulator consists of two series of rolls, one set above the other. The top set is mounted in fixed position while the lower rolls are mounted in a floating frame. This frame is counter-balanced so that the effect of its weight is negligible.

When the pull rolls are operated at a higher rate of speed than the coater, the floating rolls gradually lower as a supply of cloth is built up in the accumulator. While the pull rolls are stopped, when a new roll is sewed on, the coating is continued on the cloth made available as the pull raises the floating rack.

The web is drawn from the accumulator by a pair of nip rolls that are synchronized with the speed of the coater. By use of a dc drive, the speed of the pull rolls can be varied by the operation of a rheostat, actuated by the movement of the floating rack. Photoelectric cells have also been used to control the operation. The position of the floating rack is transmuted to speed control as, by its movement, the light source is cut off or restored.

### Endless Belts Save Time

In solution work, continuous coating has been achieved by the use of an endless belt underneath the machine, on which the cloth is returned in folds from the back of the drying oven to the coating head. In this instance, several coats of the same lacquer are necessary to build the required weight, and since this set-up permits the formation of a continuous loop of several hundred yards of fabric, its use developed a considerable saving of machine time.

This equipment is so designed that raw cloth can be sewed in and fed on to the apron without interruption as the finished material is wound out of the oven after the required weight has been developed.

Coating units operated in tandem have been used for light weight solution coating, where two or more different compounds are necessary to accomplish a desired finish. In this operation, a J-box or other accumulator is inserted between the units. This set-up has proved more practical than to attempt exact synchronization. It also permits stopping one unit for short periods of time to correct minor difficulties, without disturbing the operation of the other units.

With the use of a suitable accumulator in front of the first unit, the two can be operated continuously. The accumulation of cloth between the units will be sufficient to allow the first unit to stop long enough for the sewing in of a new web without stopping the rest of the operation. Obviously an installation of this type is only justified when the production of large quantities of the same material over a long period of time is indicated.

### There Is a Problem of Width Loss

Loss of width is practically unavoid-

(Continued on page 236)

OLDER WORKERS are usually safer. In this case, the long stem on the oil can is a good way to prevent accidents, but on the other hand the long, unbuttoned sleeves are dangerous.

STRAINS caused 60% of all lost-time accidents. Materials-handling equipment can reduce strains if the aids are used according to instructions. Two men are often needed to handle drawn warps.

INSTRUCT THE EMPLOYEE in safety. Bulletin boards are used to show how accidents occurred and how they could have been prevented. Pictures of local accidents that show local people help.

# What We're Doing About

► **Accidents "happened" to one out of every three employees in our weave room last year. Here's what we're going to do about it —**

- **Instruct each employee personally in safety rules and enforce the rules**
- **Use bulletin boards to point out hazardous conditions**
- **Correct unsafe conditions where accidents occur**

**By W. C. WESTBROOK,** Consulting Editor, TEXTILE WORLD

AN ANALYSIS OF THE ACCIDENTS that occurred during one year in our weave room revealed that the safest male worker is over 36 yr. old and that the safest of all workers is a female employee over 34 yr. old. Of the 800 employees, 70% are men and 30% are women. The average age of male employees is 36 yr. and that of female employees is 34 yr.

We found that there was little difference in the number and type of accidents that occurred on the different shifts. Each shift had about the same frequency and severity rates. But there was a big difference between the age groups.

During the year, 303 accidents that involved personnel were reported. Of these, 55 were medical cases and 5 were listed as lost-time cases. All of

| | Male Employees | | Female Employees | |
|---|---|---|---|---|
| Type of Injury | 36 Years Old or Less | Over 36 Years Old | 34 Years Old or Less | Over 34 Years Old |
| Cuts | 50% | 50% | 100% | 0 |
| Bruises | 68.4% | 31.6% | 50% | 50% |
| Falls | 71.4% | 28.6% | 100% | 0 |
| Strains | 83.3% | 16.7% | 100% | 0 |
| Eye Injuries | 75% | 25% | 0 | 0 |

FEMALE EMPLOYEES over 34 yr. old are the safest employees in this weave room that employs 800 people. Possibly because many of them wear glasses, employees over 34 yr. have few eye injuries

### Case Histories Show That Accidents Don't "Happen"

Here are the case histories of our five lost-time accidents last year.

1. The employee was transferring heavy rolls of cloth from a truck to a skid. His foot slipped as he lifted the roll, and he suffered a rupture of the abdominal wall. He lost three months from work because a surgical operation was necessary.

This accident could have been prevented if the employee had been properly instructed in the correct lifting procedure. He should also have had a thorough physical examination when he was hired to do strenuous work.

2. The employee claimed that he strained his back while he was lifting a wheel of a filling truck over an air hose on the floor. He did not report the accident until almost two months later, when he stated that his back began to hurt. He lost three weeks from work.

A mill injury to this employee is doubtful, since so much time lapsed between the alleged injury and the time when the ill effects were reported. However, proper instructions in lifting can prevent an accident of the type claimed. If the mill had insisted upon the prompt reporting of all injuries, this accident could have been kept out of the lost-time category.

3. The employee was pushing a truck loaded with a warp-yarn beam down an alley when a truck wheel struck a small uneven place in the floor. In attempting to prevent the beam from falling from the truck, the employee lost his footing and the beam fell across his leg and cut and bruised his thigh. The employee spent the day in the hospital for observation and an X-ray.

This accident was preventable. The worn plank should have been replaced before any damage was caused. Since the employee passed the alley several times each day, he should have been aware of the defective floor.

4. The employee, a batteryhand, started a loom and three days later claimed that she had strained her back. She lost four weeks from work. This was another doubtful case of mill responsibility because the employee admitted that she had done some farm work between the time of the alleged injury and her report of the injury.

This accident could have been prevented by strict enforcement of the existing rule concerning the unauthorized operation of machinery. A batteryhand is not required to start or stop looms.

5. The employee was doffing a roll of cloth when the cloth-roll crank slipped off the gear and struck him just below the eye. The accident was reported immediately, but the employee refused medical attention. The eye began to hurt a week later. At that time the employee did not report for work but went to see an eye specialist. His lost time was three weeks.

This accident could have been prevented by appropriate job instruction. It would have been kept out of the lost-time category if the employee had been sent to the hospital for examination at once.

These case histories show that accidents do not "just happen" —they are made. All of these accidents could have been prevented, and most of them, would have been negligible if prompt action had been taken.

# WEAVE-ROOM SAFETY

the lost-time accidents occurred to persons under 36 years of age. Most of the injuries were caused by bruises. Miscellaneous cuts were the second-highest cause of injuries. Strains were only 1% of the total of reported injuries, but strains caused 60% of the lost-time cases!

In an effort to establish a better safety record, the accident analysis was broken down further. It was found that some persons are repeaters, but repeaters seldom have the same type of accident in the same way more than once. Unfortunately, most people cannot learn by the experience of others, and they seem to think that an accident is something that happens to the other fellow.

### The Campaign Is Aimed At Individuals

Little can be accomplished by an impersonal appeal to the employees in general to reduce accidents. The successful accident-reduction campaign relies on the individual approach.

The campaign must be put on a personal plane, and each person must be shown how he, personally, will benefit by working safely. We point out the hazards of his particular job and not only tell him but show him how to avoid personal injury. We explain what the consequences could be in pain, loss of wages, and possible privation for his family.

We strictly enforce disciplinary rules pertaining to safety and impress upon each employee the fact that he is responsible not only for his own safety but also for the safety of those who work near him.

### A Little Publicity Can Help a Lot

While personal contact and instruction is the best method of combatting accidents, the bulletin board should not be neglected. Safety records and safety reminders of hazardous conditions can do much to keep the employees safety conscious.

If a particularly hazardous job has been completed without an accident, we call attention to the fact. Also, if an individual has an envious record of accident-free service, the matter should receive suitable publicity.

Employee safety committees can also do much to reduce industrial accidents.

### Older Employees Are Safer

We believe that older employees are safer workers than younger people because—

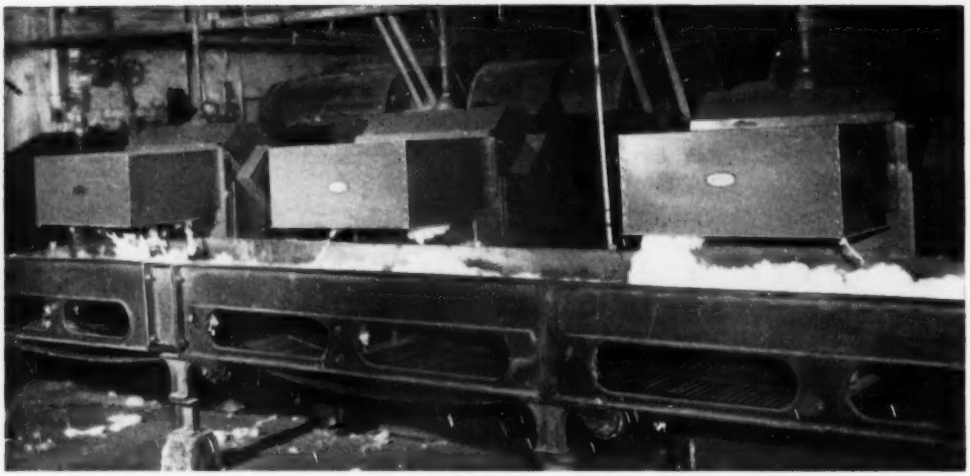
1. Older people have a greater sense of responsibility toward their own safety and also the safety of others.

2. They seldom engage in horseplay and pranks.

3. They are not constantly daydreaming, and they usually keep their minds on the job.

4. They are slower to jump to conclusions and do not rush into dangerous situations.

5. They recognize the importance of good safety records in order to hold their jobs and realize that it is becoming increasingly harder for older people to obtain gainful employment.



**THREE JUNIOR CLEANERS** deliver opened cotton to a conveyor belt that carries it to a Super cleaner to the right (not shown). Immediately behind the delivery box is the inclined three-beater cleaner. Behind that is the standard feed hopper. Cotton is being processed in a special mix for chafer fabric.

# More PEPPER TRASH Taken Out by New Cleaner

- **Junior cleaner, with three spiked beaters, is installed in tandem with feed hopper.**
- **Results: 16% more waste removed, less trash left in cotton, more uniform roving, better-looking chafer fabric.**

FIRESTONE TEXTILES, Gastonia, N. C., is getting much better cleaning of its cotton since it installed a line of Junior cleaners a short time ago.

Besides better cleaning, the mill finds that these machines open the cotton into smaller particles so that it can be processed into a softer, more even lap and, therefore, into a more uniform sliver. Running conditions in carding and spinning and appearance of the woven fabric are definitely improved.

The cleaners were installed behind the feed hoppers so that they deliver cotton to the conveyor belt that carries it on to the rest of the opening line. The three that were put in on an experimental basis are in the opening line that processes a special mix for osnaburg fabric. This mix usually has a considerable amount of pepper trash that comes from cotton-leaf particles, loose sand, stems, etc.

Because the Junior cleaner does a better job of opening the cotton, the cleaning machines in the rest of the line are more efficient.

The Junior cleaner is a modification of the Super cleaner made by Gastonia Textile Machinery Co. It has three spiked beaters where the Super cleaner had six. The Super model was designed to operate as a separate machine in the opening line, whereas the small size and compact design of the Junior model permits it to be installed in tandem with the feed hopper.

According to the mill's figures, about 16% more waste is removed since the Junior cleaners were installed. And nearly all this increase is in the nature of motes, trash, and sand.

**Waste Percentages for Different Machines in the Line, With and Without Junior Cleaners**

| Cleaning Machine | Percent with Junior | Percent without Junior |
|---|---|---|
| Junior cleaner | 0.385 | — |
| 1st Super | 0.337 | 0.423 |
| 2nd Super | 0.342 | 0.399 |
| Vertical opener | 0.160 | 0.233 |
| TOTAL | 1.226 | 1.055 |

# An Orderly WARP-STORAGE ROOM Saves Time and Effort

**Warps are quickly located**
**Old warps are used first**
**All warps are on inventory**

**By HARRY B. ILER, JR.**

IN OUR LARGE filament-rayon weaving plant, we designed a warp-storage system that licked the old problem of warp storage.

Our new system gives us these results:

1. The operator who takes the warps to the storage room loses no unnecessary time in storing the warp.
2. Warps are easily and quickly located by the weave-room personnel who take the warps to the looms.
3. A perpetual inventory is kept on all the warps in the storage room.
4. The oldest warps on each style are the first to go to the weave room.

Our system may be used in any plant that has adequate storage space.

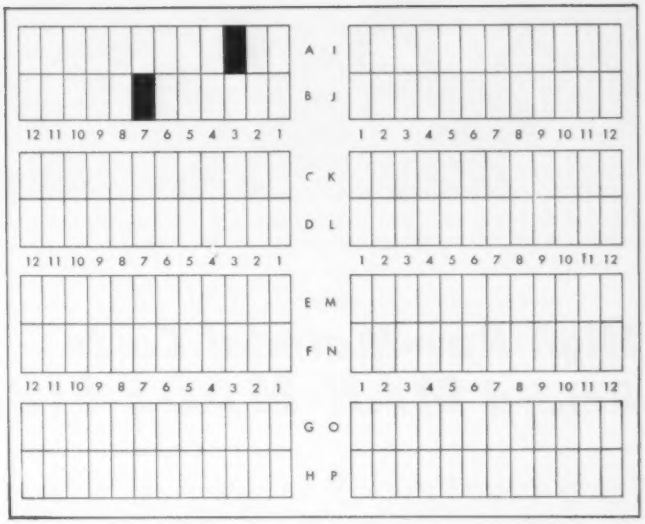
To start our warp-storage room, we cleared the floor of all warps and refinished the floor. The floor is marked off in sections and lined for the warps so that each warp can be rolled into or out of its space on a dolly warp truck without disturbing the other warps. Each section is lettered, and each warp space is numbered.

The style card that is used by the slasher man to mark the warp is made in duplicate, with a space on the cards for a warp-storage number.

When the operator takes a warp from the slasher to the storage room, he disregards any style layout and places the warp in the first available storage space. The operator marks the section letter and the space number on the style card and tears off one-half of the card.

The detached half of the card is filed in a small box near the entrance to the storage room. Since the file is arranged numerically by styles, it is easy to locate any style card. The operator files each new card in back of all other style cards on the same style so that the older cards move forward as the warps are used.

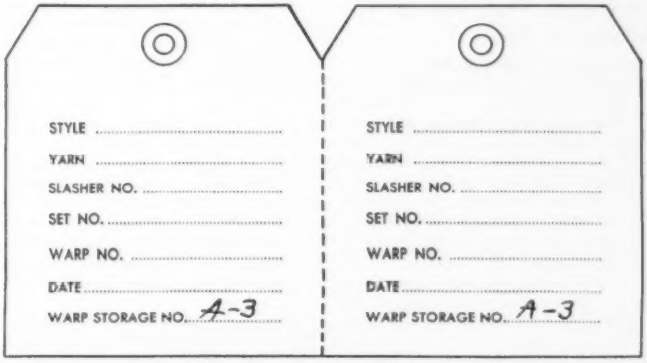
When the weave room needs a warp of a particular style, the first card in a style section is selected. The warp storage number on the card shows the exact location of the warp. The warp hauler removes the card from the file, selects the desired warp from the storage section, and takes the warp to the weave room.




**WARPS FROM THE SLASHERS** are placed in the rectangular spaces. Sections A-3 and B-7 have warps in them. Any space may be reached from the center alley without disturbing the warps in other sections.

This warp-storage system has aided the planning department in "styling" the slashers, since the inventory of slashed warps is readily available in the storage-room file.

We have completely eliminated our old problems in warp storage since we have been using our present method.




**A STORAGE TAG** is combined with the regular style tag to locate any warp in the storage room. One-half of the tag is detached from the warp and filed to show where each warp is located.

TEXTILE-FIBER SYMPOSIUM of Hotel Statler in Buffalo, N. Y., generated lively interest for two days at American Chemical Society spring meeting. The final concensus was that synthetic fibers are "hot," but . . .

# *High Raw-Material Costs Retard MAN-MADE-FIBER Expansion*

► **Popular consumer-fabric price levels may not be reached by the newer fibers for some time to come.**

► **Natural and older synthetic fibers also offer various advantages to the expanding consumer-market potential.**

► **Meanwhile chemists and researchers can help solve fiber-manufacturers' and mills' production problems, American Chemical Society is told.**

THE STATUS OF THE newer synthetic fibers as well as the older synthetic and natural fibers was given a good going over in a two-day discussion held recently in Buffalo, N. Y. The occasion was the spring meeting of the American Chemical Society.

The four-session symposium, chairmanned by Carl A. Setterstrom, sales manager of the textile-fiber department of Carbide & Carbon Chemicals Corp., New York, served as a means of bringing over 3,000 American chemists an on-the-spot chance to learn the latest information about America's textile fibers. Interest in the symposium was high, with about 300 persons attending each of the four sessions.

Following are excerpts from the papers given that are of special interest to mill men. The complete papers will be published by the American Chemical Society, New York, in December.

## ADVANTAGES OF THE "OLD" AND THE "NEW"

### WOOL'S PROPERTIES Make It Unique

By WERNER VON BERGEN
Director of Research, Forstmann Woolen Co.

The main properties of the wool fiber that are responsible for the position wool holds are its high absorptive properties, the high resilience of wool in its dry and wet state, the resistance to wicking of water, its ability to felt, its good dyeability, and its resistance to free flaming.

We find that the wool-percentage share of U. S. fiber consumption has held its position closely around a 9% level.

In the apparel field, wool's domain has mainly been and still is the heavier outer garments such as men's wear, women's wear, children's, and infants' wear. In these apparel groups between the years 1937 and 1949, the total poundage in those items increased 16%, whereas the actual percentage of wool products in these items increased 25%.

In the men's-wear overcoats and ladies-coatings field, over 90% of the items are made from wool, and about 85% of men's suits and children's coats are made of wool.

All these fabrics are outstanding from the angle of comfort, appearance, good wear under all conditions, pleasing and fast colors, and ease of tailoring.

When dry wool is loaded beyond the yield point of 20% extension, it does not fully recover, whereas the wet fiber, under the same conditions, is 100% recoverable.

The excellent elastic-recovery properties, particularly at low load, make wool good in its resistance to wrinkling and creasing.

#### Warmth Retention

The good thermal qualities of wool fabrics come from the ability of such fabrics to maintain their thickness under all conditions. The wool fiber lends itself excellently to the making up of lofty and low-density structures.

Wool is especially unique in its ability to keep a high amount of air entrapped because the air clings to the fibers, forming a wind-break. Wool fabrics feel warm to the touch because the heat transferred from the skin to the fabric is very low, and in addition have good thermal conductivity.

Wool fabrics are also outstanding in regard to moisture transfer, especially in the matter of body perspira-

tion through the fabric, as the water vapor will pass, not only through the fabric openings, but also through the fibers themselves.

### Resistance to Wicking

Wool has the ability to hold more water than any other fiber without feeling wet. This fact is responsible for the high resistance to wicking. Wool absorbs water vapor slowly and also releases water at a very low rate. The hydrophilic wool fiber thus acts as a damping mechanism in protecting the body from sudden environmental changes.

Wool is a non-thermoplastic fiber which is of great advantage in terms of ironing and pressing. There is no danger of its melting or heat-shrinking.

Wool can easily be dyed, and with a few exceptions practically any color combinations of fastness properties can be obtained.

Wool and its related animal fibers are the only ones that will felt. This property makes the manufacturing of non-woven felts and the host of the outerwear woolen and worsteds, such as suitings, coatings, and overcoatings, possible. To make felting possible, a fiber must (1) possess a surface scale structure, (2) it must be easily stressed and deformed, and (3) it must possess a power of recovery from deformation. Wool is unique in its ability to satisfy these three requirements.

The ability to felt works to the disadvantage of wool products when they have to be wet longer, but this disadvantage has been partly overcome by the use of chemical treatments.

**"The newer synthetic fibers now have unique properties that make them valuable additions to the list of fiber raw materials in the textile industry. But they are only raw materials. Their future depends on the skill and the ingenuity of the textile technologist and designer which is brought to bear in designing fabrics that will take advantage of their unique properties.**

**"This job is a challenge to both the fiber manufacturer and the textile fabricating industry. I think it is an opportunity unparalleled in the long history of textile development." . . . . *Dr. Joseph B. Quig***

## COTTON Gives A Price Advantage

By L. K. FITZGERALD
Director of Research, Dan River Mills

There are three basic considerations involved in the fabrication of every cloth that the textile mill can offer:

1. Is it something the customer will be likely to buy?
2. How will it rate as to quality and price with competing cloths?
3. Will there be a profit to the mill?

These factors are fundamental and must be kept always in mind, for they control everything the textile manufacturer does. They dictate what fibers, what treatments, and what finishes he may use.

### New Cloths

We have devoted much time and effort at Dan River to constructing fabrics of the newer synthetics, particularly in combining them with other fibers, and I will describe two such fabrics.

One is a dress-goods chambray made with a vat-dyed cotton warp, filled with one of the new synthetic filament yarns. This fabric will have to sell around $1 a yard. If it had been made of all cotton, even chemically modified cotton, it would sell at about a half dollar a yard.

The other fabric is a summer suiting-weight seersucker, the warp being made of a combination of vat-dyed cotton and one of the new filament synthetics, with a new synthetic filament for filling. This fabric, as constructed, will have to sell in the range of $1.50 a yard. If made in all cotton, it would sell at around 80¢ a yard.

### Effect of Price

From these figures, it is apparent that the cost differentials are so much in favor of the all-cotton fabric, or cotton and rayon fabrics, that only by sizeable consumer-buying tests can we determine whether or not blends of cotton with these newer synthetics will be salable in quantity.

If consumers can pay the price for these blended fabrics, then we believe the effect on cotton will be beneficial. Cotton will be lifted to higher markets.

If we assume that price differentials between the newer synthetics and cotton remain as they are for some time, it seems most unlikely that the newer synthetics will have appreciable effect on the markets for cotton, except as they may be used in a limited way in blends or in combination with cotton.

### Improved Cotton and Rayon

Because of the chemical modifications of both cotton and rayon that has been obtained at Dan River, fabric designers have been able to effect a happy marriage of cotton and rayon practical blends combining the rich appearance, luster, and draping qualities of rayon with the wet strength and wear life of cotton. Such fabrics are wrinkle-resistant, shrinkage-controlled, completely washable, and quick drying. Dyeing properties are excellent, with almost unlimited range of fast colors.

Made of the two lower-priced textile fibers, such cloths as these approach the manufacturer's conception of an ideal fabric.

## SILK PROCESSING Needs Chemical Experimentation

By W. S. KILBORNE
Vice President, William Skinner & Sons Co.

Now that the price of silk has been somewhat stabilized, just what could chemists do to help rejuvenate the silk industry?

As the raising of silk has not been economical in this country, we have not devoted our attention to it at all. However, a Japanese company has developed a reeling machine that would cut processing costs 30% and would produce four to five times as much silk as the old method. This machine is in operation now in two of the firm's 33 filatures.

And so, if reeling silk cocoons can become a mechanical operation, here could be a new industry adaptable to this country—but it needs the help of scientists to get behind it.

In Japan they have also been working on scientific breeding that will produce silk worms that will spin stronger and more even fibers. Through selected breeding over a period of years, Katakura Industry Co. has perfected a high-tenacity fiber. They think it will match and hope it will better nylon. If this is so, one of the practical advantages of nylon in hosiery would be eliminated.

Furthermore, work is now being conducted with the aim of producing silk adaptable for high-speed weaving in this country.

So you see there is a large field open to basic research on the yarn itself—in breeding for average thickness, uniformity, and strength, as well as in reeling.

Another approach to the problem that has always appealed to me is the short-cut method of raising silk worms

with a large fiber "gut" that could be dissolved chemically and spun mechanically through a spinnerette, the same as with man-made fibers. Japan, Switzerland, and England are all giving this approach some thought. If this problem could be worked out in the United States, not only all the detriments of unevenness in silk would be solved, but a whole new farming industry could be started here.

### Dyeing Problems To Solve

Then there is the problem of degradation in "grand teint" dyeing. No matter what precautions are taken in the vat dyeing of silk, the silk is always affected to a greater or lesser degree. The deeper the colors, the greater the problems, because of the high proportions in the dye liquor.

In addition, it would be extremely helpful if a manufacturer when purchasing silk could ascertain whether or not it is "lousy." This condition is latent and first shows itself when the silk is boiled off. It is apt to be further aggravated in dyeing, particularly if fast dyes are used. Some microscopic and tinctoral methods have been developed, none reliable.

Another problem the Silk Association is working on is the degradation of silk by light. Special treatments have been developed to slow down this degradation, but a development or more efficient and permanent methods would certainly be desirable.

There is a great demand today for fabrics containing scroop. Of all the fibers known, silk has the most scroop. To build up this scroop, strong acids are used in the finishing of the fabrics. Although standards for the strength of these acid baths have been set up, the finishes may at times exceed them.

To date there has been no test developed to show whether or not these standards have been exceeded. It is, therefore, impossible to know where the responsibility lies when a fabric with scroop goes tender.

Anyone in the industry agrees that the need for fabrics and colors that are truly washable would be a great boon to silk. By truly washable, I mean ones that could withstand the treatment of a washing machine. Publicity has been given some silk fabrics, saying that the goal of washability has been achieved. But it is not yet possible in the vivid colors normally associated with silk.

If chemists could find the answers to even some of these problems, the demand for silk would be increased.

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## IMPROVED RAYON
## More Than Holding Its Own

By J. B. GOLDBERG
Research Director, J. P. Stevens & Co., Inc.

The strength of today's rayon is definitely high enough to meet the needs of most applications, excepting some specialties in industrial fabrics. Remarkable improvement has been made in recent years, and high-tenacity yarns are now being spun that are superior in strength to most of the natural fibers.

In physical form alone, viscose can be made to meet almost every known requirement. It is possible to extrude filaments of extreme fineness and suppleness, or as very coarse and rigid monofilaments, in any degree of luster, dope-dyed, with cross sections ranging from almost circular to flat and even hollow, and with a pre-determined amount of durable crimp. Elongations can be varied widely for specific requirements; and in some instances, experimental fibers and yarns have been made with greatly reduced wet-swelling characteristics or with modified dyeing properties.

Whiteness has generally been regarded as a symbol of purity and virtue, and viscose has always rated high in this respect. At least any failings along these lines can usually be remedied by simple inexpensive bleaching methods with no serious complications. Soil removal from garments or household fabrics, composed of viscose is good, with conventional laundering or dry-cleaning procedures. The problem of pilling, encountered in spun-yarn fabrics of some of the newer synthetics, is virtually nonexistent.

Latitude of dyeability is an attribute possessed by viscose that is certainly the envy of every one of its newer textile associates. Rayon fabrics can be dyed or printed with the widest variety of dyestuffs and to any degree of brilliance with color-fastness properties to suit any need, and at the lowest costs. In blends with the other man-made fibers, it is possible to keep the viscose undyed or white without any appreciable staining, or to obtain attractive cross-dyed effects.

### Stabilizing Rayon

Woven fabrics can be stabilized against excessive shrinkage or stress in use and in continued laundering or dry-cleaning, by any one of several practical, reasonably priced chemical finishing methods. Resistance to wrinkling or greatly improved recovery from creasing and temporary or durable water-repellency can be achieved through relatively simple chemical treatments.

The heat-resistance of viscose is superior to that of most of the newer synthetics, so that no special precautions are necessary in ironing apparel fabrics to prevent their glazing or sticking. The creping power of viscose yarns is a property not found in any of the other man-made fibers, unless some costly unorthodox techniques are employed.

While the resistance of viscose to mildew or bacteria and flammability is generally inferior to that property of its new chemical cousins, the application of materials to guard against deterioration or ignition and burning may be readily accomplished.

Moisture absorption of the regenerated cellulose fiber is high, as compared with that of nylon, Dacron, and the acrylics, but with the exception of the advantages of rapid drying of washable fabrics, in most apparel fabrics this hydrophobia is not only unnecessary, but often detrimental to certain end uses.

## NEWER SYNTHETICS
## Open Wide Vistas

By JOSEPH B. QUIG
Manager, Textile Fibers Dept.
E. I. du Pont de Nemours & Co., Inc.

The newer synthetics have introduced a new dimension into fabrics that might be called "permanence of function." With the new fibers, fabrics can now be constructed, having a high level of properties that can be maintained throughout the life of the garment.

For example, it is now possible to manufacture fabrics possessing dimensional stability, resilience, and bulk; and to maintain these desirable properties in high humidity, in the wet state, and after laundering and dry-cleaning. Some of the older fabrics are lacking in these qualities.

With nylon, the acrylic fibers, and Dacron polyester fiber, there are now available fibers that will permit the industry not only to improve the functional properties of the water-sensitive fibers, but also to secure permanence of performance.

Whether the best suiting will be made from the new synthetic staples entirely, or from blends, is immaterial. It is important that the fabrics possess the maximum permanence of performance.

The addition of these new staples

to the water-sensitive natural and man-made fibers is by no means a one-way street. We already know that wool, cotton, rayon, acetate, Vicara, and other water-sensitive fibers will contribute favorably to versatility of design, to dyeability, to the minimizing of pilling and static electricity and, in some cases, to reduction of cost.

On the other hand, the truly synthetic hydrophobic fibers in blends with the hydrophilic fibers will introduce the new dimension, permanence of function, by improving the final fabric's dimensional stability, by retention of press and shape, and by resistance to wrinkling.

### Textile Vistas Widened

With these new fibers on the shelf of the laboratory of the textile technologist, he will have greater latitude —latitude that will permit him to scientifically engineer fabrics that will give the maximum performance under all conditions of service.

Tenney—Quig—Goldberg—Fitzgerald—Von Bergen

When it is remembered that the success of the fiber depends on availability, functionability, and cost, the imagination is fired by the new and widened avenues that will be opened by blending the present natural and man-made fibers with newer synthetics that will be available in large commercial quantities in 1952 and 1953.

The newer synthetic fibers have unique properties that make them valuable additions to the list of fiber raw materials of the textile industry. But they are only raw materials. Their future depends upon the skill and ingenuity of the textile technologist, brought to bear in designing fabrics that will take advantage of their unique properties.

This job is a challenge to both the fiber manufacturer and the textile fabricating industry. It is an opportunity unparalleled in the long history of textile development.

## ROLE OF SYNTHETICS IN FABRIC END USES

## INDUSTRIAL USES of Fibers Demand Certain Properties

By H. S. GREW, JR.
Vice President, Wellington Sears Co., Inc.

In the case of industrial end uses the most important fiber today by far is cotton.

Enormous quantities of cotton are produced yearly in various parts of the world, and although its price fluctuates widely, being an agricultural product, it is a relatively low-cost raw material for the textile industry. Cotton possesses many outstanding properties and characteristics; and in view of its wide grade availability, it is being used in a wide variety of industrial products constituting a very large market.

Cotton fabrics are well established in the industrial field. In recent years, however, the textile industry has benefited tremendously from chemical research, which has had such far-reaching effects in other industries. Many man-made fibers—the direct results of this chemical research—are now commercially available in quantity, and important industrial applications are being found for them. There are others in the development stage showing great promise for industrial uses that will be available in the near future.

Government loan supports on cottons has kept the price up above natural level with the result that man-made fibers have largely replaced cotton cords used by the tire industry—the most important single use of industrial textiles. The production of about 300,000,000 lb. of high-tenacity filament rayon, largely going into tire production, has displaced about 700,000 bales of cotton, according to recent estimates.

Another advantage for man-made fibers in the industrial fields is their ability to be produced in three basic forms: namely, monofilament, continuous multifilament, and staple. The type selected depends upon the particular end use of the requirement.

Monofilament yarns are used for screenings and certain industrial filtercloth applications. When a yarn or fabric is required with optimum strength weight, a continuous-filament yarn is the type selected.

Staple, on the other hand, spun into yarns on conventional textile equipment, is in a quite different category. The tensile strength of such yarns depends not only on the basic fiber strength, but also on the frictional hold of such yarns themselves, imparted during yarn spinning and possible subsequent twisting operations. This frictional hold may be increased in the case of staple yarns by resin and heat-treatments.

However, where tensile strength is of prime importance, a continuous-filament yarn has decided advantages. Furthermore the bulk factor is lower in filament yarn, and this also has important industrial significance.

On the other hand, in many industrial applications, tensile strength is not of such great importance. In yarns produced from staple, for example, the fibers are in a better position to move about when subjected to distortion and to retain their inherent position in the yarn structure. The frictional hold of fibers with the yarn and the elasticity of the fibers themselves are the factors involved. However, if these bending and flexing stresses are too great, or if they continue over a period of time, ultimate failure of the yarns will occur at the wear point.

On the other hand, compact continuous-filament yarns of high fiber density, although possessing high tensile strength, do not lend themselves to many industrial applications involving these other types of mechanical wear and distortion.

## PILE FABRICS Improved With Synthetics

By JOHN P. MALIK
Fabric Div., George W. Borg Corp.

This discussion will concern itself with the adaptation of the newer synthetic fibers in the field of knitted pile fabrics.

The specific knitted-type pile fabric discussed is that in which a roving is fed directly into a circular knitting machine. The resulting circular fabric is one in which the roving forms the pile directly, held by a knit yarn.

Fabrics having a pile height of up to four in. have been commercially

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A Midwest mill making fine-quality fabrics was well satisfied with the process aid it sprayed on wool during the picking operation. But like every alert textile manufacturer, this company was continually on the lookout for ways of doing things better. That's why it gave a Sun representative the opportunity to study its plant operations. When the Sun man said he believed that Sunotex WO-410 would do as good a job at a substantial saving, the mill decided to find out by running production tests.

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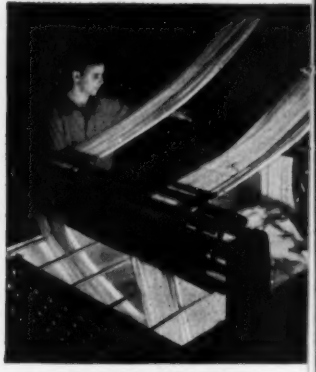

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produced. The density is controlled by the rate of roving fed into the machine. Fabrics ranging in pile density from eight oz. to eight lb. per sq. yd. have been manufactured.

### Synthetic Wolverine for USAF

In 1949 we were awarded a development contract by the Clothing Branch, Aero Medical Laboratory, USAF, to investigate the feasibility of making a simulated wolverine-type fabric.

This material was intended as a replacement for natural Wolverine or wolf on cold-weather parka garments.

Experimentation was started to make a fabric having the functional characteristics and the general appearance of wolverine. The fabric would necessarily have a uniform underhair of approximately one in. supporting a guard hair averaging between 2½ and 3 in. long.

The guard-hair diameter, to approximate wolverine, should be in the neighborhood of 4 mils. It should be so placed that it stands perpendicular to the base and dense enough to give a good windbreak. Too dense a material or one in which the guard hairs do not have sufficient support results in ice forming and freezing a number of them together.

The guard hair must be firmly anchored into the material and have sufficient strength so that it does not pull out of break during the brushing ice-removal process. It must not be adversely affected by low temperatures. Moisture should not cause matting. The guard hair should have good resiliency and stiffness, and should maintain it during the life of the garment.

The frost and ice-removal properties are a function of the stiffness; this is evidently why wolverine has proved the most satisfactory of the natural furs.

### Producing the Fabric

It was decided to concentrate our efforts on evaluating commercially available monofilaments. Our work was limited to nylon, saran, polyethylene, vinyl chloride, and Caslen. Fabrics were knit using the above cited monofilaments as guard hair. It was found that use of a heat-set nylon monofilament showed the most promise.

The guard hairs were positioned almost perpendicular to the base. A range of fabrics were made using the heat-set nylon monofilaments in diameters of from 2½ to 8 mils. It was found that a 4- to 5-mil nylon filament produced a ruff material that had functionally the same ice-removal properties as natural wolverine. For

Setterstrom—Spiro—Grew—Lake—Malik—Huback

underhair purposes, it was found that six-den. nylon staple gave the best support to the guard hair.

### Meets Arctic Tests

The fabric has been thoroughly tested by the USAF under Arctic conditions and has been found functionally satisfactory as a replacement for natural wolverine and wolf. Large procurements of this material have been made at a cost approximately one fourth that of the natural fur.

Further work is being done to investigate some of the newer fibers available in monofilament form. These will be tested to determine their acceptance for this particular purpose.

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## KNITTED FABRICS
## Must Be Improved Customerwise

**By F. F. HUBACH**
**Head of Research, Princeton Knitting Mills**

Our mission as knitters is to avoid complicating the lives of American women, and hence it is our obligation to create fabrics that will permit easy-living garments for everyone.

This thought of consumer service can be carried into household furnishings such as curtains, draperies, furniture-covered, floor covering, blankets, and so forth. To this end I wish to record a series of "musts" with which mills should be familiar:

1. *Stability of garment or article,* regardless of cleansing methods. It is essential that all garment dimensions be unchanged after repeated cleansings, whether these be commercial laundering, home-laundering machines, hand laundering, or dry-cleaning.

2. *Minimum of ironing or pressing.* If a garment or other articles, after cleansing, can be hung to dry and is ready for use without ironing or pressing, our contribution is a real achievement. Usually overnight drying is acceptable.

3. *Lighter-weight garments* without sacrifice of warmth. The advent of nylon in various fabric applications, as well as the Armed Services layer principle, has focused attention on lighter-weight fabrics for all uses. Generally speaking, there is no objection to bulk as such, provided the weight is low. So especially for the colder-weather fabric, a slogan "Warmth Without Weight" might serve as well.

4. *No change in character of the fabric,* even after repeated wearing or cleansing. Among considerations are surface character, handle, luster, etc. We hear many comments about pilling, which must have our serious consideration.

5. *Resistance to soiling.* Any contribution that will lengthen service life between cleansing will promote ease of living. If spot-cleaning will care for minor soilage, without later evidence of the operation, we again have made a real contribution.

6. *Resistance to various abrasions* is important, as longer wear life with acceptable appearance will be demanded by the consumer.

7. *Resistance to wrinkling,* and rapid recovery if there is wrinkling. This again increases service life between maintenance operations.

8. *Permanent pleats and creases.* Failles will call for heat-set application, which need to be permanent to all cleansing methods.

9. *Insect-proofing.* To eliminate all storage problems.

10. *Mildew-proofing.* To eliminate storage problems and fabric damaging.

11. *Resistance to chemical action,* stains, etc. Recent publicity was had in mid-town Manhattan when numerous nylon hose were casualties.

12. *Flame resistance.* You are all familiar with the recent agitation caused by a long-hair untreated brushed rayon fabric. I believe proper legislation will be passed, which I favor.

13. *Anti-static agents.* Static is a serious problem common to all hydrophobic fibers. A permanent built-in anti-static is the true solution. This lacking, the cleansing of garments

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Butterworth service is offered too, to help your wet finishing department get the most out of what you now have — to keep equipment at peak efficiency. It may be only a spare part you need — but if you need it in a hurry, you'll get it in a hurry if it is humanly possible.

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# BUTTERWORTH

made of hydrophobic fabrics must be set up for the application of anti-static treatment as needed.

## GARMENTS Should Offer Price, Handle, Performance

**By ARTHUR SPIRO**
**Assistant to the President, Robbins Mills, Inc.**

There are four basic considerations that we look for in fabric when purchasing a suit. The relative degree of importance that we place on each of these factors varies among us as individuals; but to some extent or other, our ultimate choice of fabric is based on: PRICE, APPEARANCE, TOUCH, and PERFORMANCE.

Textile manufacturers therefore now have to apply the same type of engineering thinking to fabrics and construction as you chemists have done in your laboratories to assure the future and long-life of the new man-made fibers. This is much easier said than done, since the project must be carried further on to the cutter, retailer, tailor, and dry-cleaner as well.

### Fabric Appearance

With regard to fabric appearance in suitings, we must develop dyestuffs and techniques for Orlon, Acrilan, dynel, and Dacron by which we can selectively dye each fiber component or type in a blended fabric, by practical peace-time methods, to get cross-dye or union-match color effects with other man-made ornamental fibers. We have faith in the ability of you chemists to produce these chemicals and techniques, and we are, therefore, today taking many devious methods in fabric development in order to use the new fibers with their general dyeing limitations.

Hoyer—Bunn—Bouvet

### Touch

As to finishing techniques, we know that a good many of the woolen and worsted processes, such as soaping, fulling, napping, brushing, and shearing, actually make the touch or handle of the fabric, and this very same approach and more can be applied to man-made fibers. We have long disproved the propaganda statement that rayon fabrics feel cold by virtue of continued laboratory and wear tests that have resulted in complete consumer satisfaction in this respect.

### Price

Cost may today be the determining factor in the purchase of woven-apparel suiting fabrics; and despite all of the other wonderful characteristics of touch, appearance, and performance that a fabric may have, it must be priced so people can afford it.

The thought of our being able to consume the large quantity of Orlon, Acrilan, Dacron, dynel, Vicara, X-51, and others, planned for use in the woven-apparel field, is a frightening one, based on present prices of these fibers as compared to wool, acetate, and viscose rayon. It has been our experience that a price differential of 50¢ per lb. in raw-material cost of a year-round-weight suiting fabric can translate itself easily into a difference of $5 to $10 cost to the consumer in one medium-priced retail suit after it has passed through the several stages of manufacture. This difference may mean the sale of a garment in the volume bracket, or no sale at all.

Manufacturers of the new chemical fibers will have to see that their costs are aligned to such an extent that their products will be reduced to from 25 to 50% in selling price to compete with wool at today's levels.

### Performance

Some of the performance possibilities are engineering recovery and stability performance into fabric construction, building in strength characteristics, using the bulk of acrylics for lighter-weight fabrics, and using the drying and moisture-resistant properties of the newer man-made fibers.

Functional disadvantages, on the other hand, include low melting, glazing, pilling, static, and burning. Research and development must be done also in tailoring and dry-cleaning.

## NEWER FIBERS OFFER VARIOUS HEADACHES

## ACRYLIC-FIBER EXPANSION
### Calls for Lowered Costs

**By HOWARD BUNN**
**Vice President,**
**Carbide & Carbon Chemicals Co.**

In our opinion, the market for the vinyl and acrylic fibers will probably not exceed 100,000,000 lb. at the current price level ($1.28 for dynel staple, $1.90 for Orlon staple, and $1.85 for Acrilan staple). If, however, we can achieve a raw-materials cost of 10¢ per lb. and perhaps sell fiber somewhere in the range of 50¢ per lb., the potential market might be billions of pounds per year.

Dynel has an advantage in raw materials costs, because it is 40% vinyl chloride, which currently sells for 14¢ per lb. The other fibers are primarily acrylonitrile, which is currently priced at 43¢ per lb. This 43¢ price will probably fall to about 30¢ in time, but it seems likely that vinyl chloride will always cost substantially less than acrylonitrile.

The 100,000,000 lb. a year production is just about in sight. Carbide & Carbon is currently expanding its raw materials units and fiber-producing plant to a capacity of 6,000,000 of dynel staple per year. Engineering work is proceeding on another plant with a capacity of 30,000,000 lb.

Du Pont's current production of Orlon continuous filament stands at 6,000,000 lb. per year. A staple plant is expected to be turning out 30,000,000 lb. annually by the end of 1953.

Chemstrand is constructing a 30,000,000 lb. per year plant for producing Acrilan staple, scheduled for completion late in 1952. Annual production of Dow's saran has reached 18,000,000 to 20,000,000 lb. annually, with further expansion in the works. Dow's vinylidene-chloride resins are actually processed by many fabricators and the monofils sold under various trade names, such as Firestone's "Velon." Limited production of fine-denier saran staple was recently begun by Saran Yarns Co., which is a jointly

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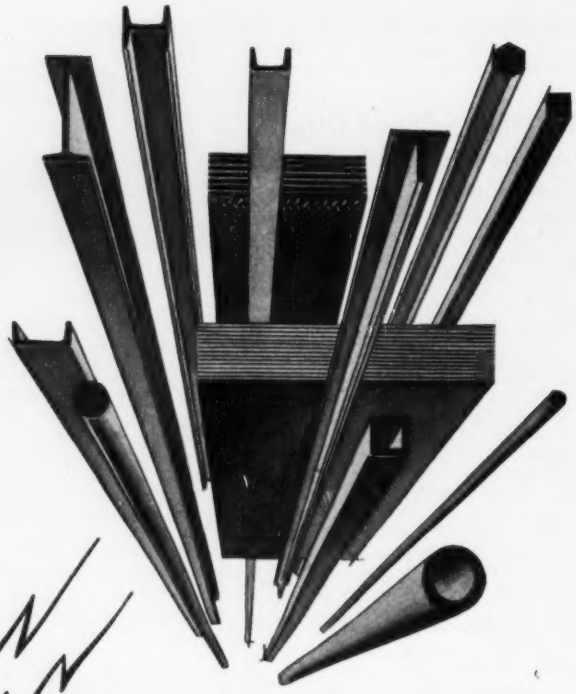

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**PLATES**—Many types including Inland 4-Way Safety Plate
**SHEETS**—Hot & cold rolled, many types & coatings
**TUBING**—Seamless & welded, mechanical & boiler tubes
**ALLOYS**—Hot rolled, cold finished, heat treated
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owned subsidiary of Dow and National Plastics Products Co.

Other vinyl and acrylic fibers are in various stages of development. Vinyon HH staple is a copolymer of vinyl chloride and vinyl acetate. The resin is produced by Carbide & Carbon, the fiber by American Viscose. Current production is about 1,000,000 per year, growing steadily, if not spectacularly.

Commercial production, at an undisclosed rate, of polyvinyl chloride fibers was begun in France in 1950. The continuous filament yarn is called Rhovyl, the staple Fibravyl. A polyvinyl alcohol fiber, which is insolubilized with formaldehyde, is made in Japan under the trade name Carilan. Present production is reportedly 6,000,000 lb. per year.

### Laboratory Acrylics

Acrylic fibers are reported to be coming from the laboratories of Eastman Kodak, Tennessee-Eastman Division, and Industrial Rayon Corporation. Tennessee has patented copolymers of acrylonitrile with 10% to 30% of 2-methallyl alcohol and 2 to 40% of N-allyl cyanide, or N-2-methallyl cyanide. Industrial Rayon is investigating acrylic copolymers containing small percentages of itaconamide, itaconic acid, fumaronitrile, methyl-D-cyanoacrylate, or D-cyanoacrylamide. American Cyanamid is currently carrying out an evaluation program with its polyacrylonitrile fiber "X-51." ("Cyana" staple and "Cresslon" filament), with plans for large-scale production effective shortly.

## FABRIC PERFORMANCE Obtainable Through Fiber-Property Studies

**By RENE BOUVET**
**Textile Research Dept.,**
**American Viscose Corp.**

Engineers of modern fabrics should be four-ways blends of science, mechanics, business, and inspiration.

It is natural that they should be able to design more functional fabrics than in the past, because they have more means at their disposal. They are also expected to build from the ground up—that is, from the fiber to the cloth. This method will gradually supersede the present practice of manufacturing the cloth and then of appraising it.

Textile engineers of the future will eventually succeed in drawing fabric blueprints and will apply adjustment factors to convert the fiber values into fabric performance.

To acquire a good understanding of the possibilities offered by the new fibers and of their potentialities, one must familiarize himself with their chemical and physical properties. He must be well acquainted with the mechanics of textile manufacturing, familiar with the limitations imposed by mass production, aware of the problems involved in meeting a prevailing high efficiency, and be accustomed to rugged competition and the unending changes in labor patterns.

In short, he should know existing fabrics and their performance before he will be in a position to figure intelligently how to improve present fabrics and to design new ones.

### Fiber Properties

The following fundamental fiber characteristics should be evaluated by the designer in relation to the pattern of fiber properties vs. fabric performance:

1. Tensile strength
2. Fiber length.
3. Fiber diameter
4. Moisture absorption
5. Specific gravity
6. Dimensional stability
7. Abrasion resistance

It is hoped that fiber-abrasion-resistance values can eventually be related to the life of a garment exposed to known conditions. The work to be done to realize such an ambitious project may have to be carried out over many years before it culminates in practical findings.

Present laboratory abrasion-resistant tests yield only indications. They just about make it possible to segregate the very good from the very poor.

Many more characteristics offering fertile ground for discussion have been left untouched. Extensibility, for instance, which runs parallel with some forms of abrasion-resistance and counter to brittleness, is one. Resilience, a simple word describing the complex property dealing with recovery from deformation, is another characteristic.

Then there are others, of which the actions are easier to place in the pattern of functions, such as resistance to chemicals, bacteria, thermosetting, thermoplastic characteristics, ability to crimp, to full, and even to dissolve in water as some alginates do.

The scope of this subject is not limited to the individual relationship of specific fiber properties with functional performance. It also extends to the relationship of groups of characteristics, as found in various blends, with functional performance.

# BASIC SYNTHETIC-FIBER RESEARCH CONSIDERED

## NEW-FIBER SUCCESS Not Easily Attained

**By W. W. HECKERT**
**Head of Technical Div.**
**Textile Fibers Dept.**
**E. I. du Pont de Nemours & Co., Inc.**

At first blush one might be inclined to believe that the relationship between fiber and textile properties cannot be very complex.

One can recall some popular and deep-rooted convictions held in some quarters as to certain alleged relationships. I am going to hasten to assure you that any such concept of simplicity is deceptive, a fact that may be worthwhile illustrating with several examples.

Consider for a moment the many angles to elasticity and resilient phenomena. Nylon is unique among textile fibers in showing exceptional elastic recovery from high strength.

| | *Recoveries from 20% Stretch* |
|---|---|
| Nylon 66 | 77% |
| Dacron polyester fiber | 36% |
| Orlon acrylic fiber | 41% |
| Rayon | 30% |
| Acetate | 20% |
| Silk | 35% |

From this fact, the unwary might be led to predict that woven nylon fabrics would have exceptional wrinkle-resistance, superior to fabrics made from these other fibers. Such is not the case.

Nylon is clearly excelled by Dacron in the wrinkle-resistance of its woven fabrics. One might be led to suspect that some mysterious difference between bending and the tensile elasticity accounts for this rather obvious anomaly.

However, this line of thought leads to another dilemma. On the basis of wrinkle-resistance of the fiber, one would expect that in the pile of rugs, where we clearly have to do with bending elasticity, Dacron polyester fiber should excel. Such is not the case. In rugs, both nylon and Orlon excel over Dacron.

To be sure, further study of the mechanical relationships in these textiles will undoubtedly disclose the reason for these surprising results, but we shall have to do more than scratch the

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**WOOLEN:** Flexifort, wool face and felt face foundations in all plies. Wool face and felt face foundations are stitched in heavier gauges to reinforce and prevent lifting of the face when stripping. Set with round, hardened and tempered steel wire in gauges from #26 to #36. Also, double convex in gauges from #26/30 to #34/38.

**WORSTED:** Rubber face foundation set with round, hardened and tempered steel wire in gauges from #20 to #38. Also, double convex in gauges from #20/24 to #34/38.

**CARPET and ASBESTOS:** Wool face, felt face and flexifort with extra plies. Set with round or double convex H. and T. Steel wire in gauges from #18/22 to #28/32.

**COTTON:** Cylinders and doffers in C.C.W.C. and C.W.C. foundation from #80's to #130's. Burnishing and Stripping Fillets.

**LICKERIN CLOTHING:** Foundations — Double Leather, Balata, Fabreeka, and Enamel Face. Diamond point or angular wire for lickerins and feed rolls is standard in #16, 18, 20, 22, 24, and 26 (angular) D.P. Also Single Convex in #12/20, 12/22, 12/24 and 15/24.

**NAPPER WIRE:** Foundations — Rubber face and felt face. Round, angular, and double-convex H. & T. steel wire.

**PLATED WIRE and REHARDENED POINTS** are available on all the above if desired.

You can count on this superior Card Clothing to do a better job for a longer time.

## *OUR 60TH YEAR OF SERVICE*

# CIGARETTES AND THE TEXTILE INDUSTRY

Besides the fact that many textile men smoke, you may wonder just what place cigarettes have in an ad for the textile industry.

**An Interesting Carding Story**

The shredded tobacco must be uniformly spread before it is made into cigarettes in order to insure the familiar smoking requirements, round, firm and fully packed. The individual shreds are aligned by using a special type of Booth Card Clothing to assure even distribution of tobacco in the cigarette.

**An Exacting Requirement**

The high standards of the cigarette industry are so demanding that the card clothing must be accurate to the thousandth part of an inch. Booth clothing more than answers these requirements. Critical weight controls on each individual cigarette check the accuracy of feeding. It is essential that efficient accurate spreading take place if this weight requirement and the packing requirement of the tobacco are to be met.

**Many Famous Cigarettes Depend on Booth**

Lucky Strike, Pall Mall, Fatima, Chesterfield, and Philip Morris are among the many famous brands of cigarettes that depend on Booth Card Clothing for uniformity and quality in cigarette manufacture. These well known companies in addition to the American Machine & Foundry Company and Bonsack Machine Company, principal equipment suppliers to the tobacco industry, depend on Booth as their major supplier of card clothing.

Benjamin Booth Company card clothing meets the specifications of this exacting industry just as they do those of the textile industry. We feel confident that you too will benefit by using Booth Card Clothing for every carding requirement.

*Sincerely yours,*

*E. Allen Snape Jr*

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surface if our efforts are to yield an explanation.

### Disparity of Viewpoint

Finally, even if the initial evaluation proceeds relatively smoothly, there is a wide disparity of viewpoint between the fiber manufacturer and the textile manufacturer that may bias the judgment of the latter.

The fiber manufacturer is considering the advisability of making a multimillion dollar investment in fixed equipment that cannot be converted readily to the production of another product. Consequently, he must be primarily interested in the long-range competitive position of the new fiber.

The textile manufacturer is considering the production of a new product on his existing equipment, knowing that at any moment it can be converted with little expenditure to the use of some other fiber. Consequently, he is primarily interested in his short-range competitive position.

The latter wishes to produce something new, to increase his profit margin for at most a few years, expecting at the end of that time to have to change to something else. He is in a business where success belongs to "the fleet of foot." If he thinks he has a winner, his instinct is the "grab it and run." But if further experience proves that the new fiber does not have long-range competitive merit, his interest will volatize overnight.

There are examples which could be cited where textile experts have been far too optimistic about the future of a new fiber in specific end uses. Thus intense interest by the textile manufacturer could, in the worst event, amount to no more than an invitation to disaster for the fiber manufacturer.

## CRIMP and Stress-Strain Curves Are Interrelated

**By J. H. DILLON**
**Director, Textile Research Institute**

The synthetic fibers are extremely versatile with regard to their simple mechanical properties as measured by the initial stress-strain curve to rupture. However, none of the man-made fibers approach cotton in mechanical performance although the reproduction of wool's properties has been achieved much more closely.

Another important point is that some of the hydrophylic man-made fibers have stress-strain curves similar to that of silk in the dry condition, but more closely follow the behavior of wool in the wet state.

The first section of this paper consists of a study of the stress-strain curve to rupture obtained for all the fibers presented (viscose, acetate, nylon, Orlon, Dacron, dynel, Acrilan, X-51, Vicara, and regenerated silks), both in the dry and wet states. Included in the studies for reference purposes were representative wool and cotton fibers, and a sample of natural silk with unusually high tenacity.

Heckert—Dillon—Mark

Since these experiments were performed on single fibers under exactly the same conditions, the data are interesting for comparative purposes. However, properties of the synthetic fibers might be altered greatly by changes in process.

### Mechanical-Performance Information

The initial stress-strain curve to rupture in addition gives only a small portion of the information necessary to define the mechanical performance of the fiber intention.

Repeated stress-strain tests, followed by stress relaxation, and finally a stress-strain curve to rupture, were therefore performed on all the fibers.

A very simple but reasonably informative method of analyzing these cycling tests was devised in the form of "cycling profiles." By means of these profiles, each fiber was compared against an "elastically ideal" fiber, which is defined as a fiber that has no progression of maximum stress in the repeated stress-strain cycles, and no relaxation.

Conclusions can be drawn concerning the relative elastic performance of the various fibers in terms of the additive effect—permanent set and orientation—that contribute to the progression of stress and relaxation.

### Effect of Crimp

Crimp affects the tensile properties of fibers. Samples of crimped and uncrimped nylon and Dacron too show that the imposition of crimp in a synthetic fiber invariably yields a reduction in the Hookean modulus, measured as the normalized slope of the linear portion of the stress-strain curve.

The same behavior was found in tests on two samples of wool that differed only in crimp, with a resultant change in modulus. It is suggested that this finding is of considerable importance since the modulus must now be considered to be dependent, not only upon the molecular structure of the fiber, but also upon its crimp.

It is not surprising, therefore, that some of the efforts to explain the mechanical behavior of crimped fibers in terms of molecular structure, employing the modulus as a fundamental mechanical property, have not met with great success.

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## Selected Questions and Answers Asked at the Final Symposium Session

*Mr. Setterstrom:* Please stand and state your name and affiliation clearly, and don't be embarrassed if I ask you to spell out your name. We are now ready for questions. May I have your name, sir?

*Harold Haven,* Bell Aircraft: Dr. Quig, would you compare the synthetic fibers for their relative flame resistance?

*Dr. Quig:* The flammability of Orlon is between that of viscose rayon and acetate rayon. The flammability of nylon and Dacron are essentially the same. Nylon and Dacron like all fibers are affected by the type of finish, and so these answers that I am giving are for the fiber without any finish. I am going to put Acrilan in the same class as Orlon, and X-51 of course is in the same class as Orlon. That leaves dynel, and I am going to ask Mr. Stetterstrom to answer that.

*Mr. Setterstrom:* That's what I would like to answer, because dynel, as far as we know, is the most fire resistant of all the fibers with the exception of glass and asbestos. It is even more fire-resistant than wool. Next question?

(*Continued on page 304*)

# tomorrow's production

## *with yesteryear's frames?*

THE SIXTY-FOUR DOLLAR QUESTION confronting many mills is "How can we make our yarn output competitive . . . in quality, quantity, and cost . . . and still utilize our old band-driven or old-style tape-driven frames?"

Scores of mills have found a profitable and highly satisfactory answer to this question in "Meadows Modernizers" . . . individual drive pulleys, ball bearing tape tension pulleys—that assure even tension at all times—a more uniform speed and twist—fewer ends down.

If it's changing from band to tape-drive . . . cutting and lengthening frames . . . replacing troublesome cylinders on long tape-driven frames, or even changing the gauge and ring size . . . or merely accessories such as tension pulleys, separator shields, saddles, etc.—consult us before making final decision, and let us give you the benefit of our experience along this line.

*Ball Bearing Tension Pulleys*

•

*Individual Drive Pulleys*

•

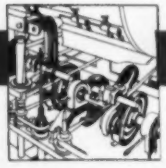
*Aluminum Alloy Separators*

•

*Silent Chain Drive*

•

*High-Strength Polished Steel Shafting, mounted on Heavy Duty Self-aligning Ball Bearings*



## MEADOWS CONVERSIONS

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Salisbury, N. C.

**COTONNIÈRE NOUVELLE ORLÉANS**

MILL NO. 1 DATE 3-12-52

H+B Casablancas

| Frame No. | Yarn No. and Mix | Ends 1st Tour | Ends 2nd Tour | Total Two Tours | Ends 3rd Tour | Total Three Tours |
|---|---|---|---|---|---|---|
| | American "Extra" | | | | | |
| 1 | 40 | (7) | 4 | (11) | 3 | |
| 2 | 40 | 2 | | | | |
| 3 | 40 | (8) | 3 | (11) | 5 | (16) |
| 4 | 32 | 1 | | | | |
| 5 | 40 | 0 | | | | |
| 6 | 40 | 0 | | | | |
| 7 | 40 | 4 | | | | |
| 8 | 36 | 2 | | | | |
| 9 | 40 | (7) | 8 | (15) | 15 | |
| 10 | 40 | 3 | | | | |
| 11 | 40 | 3 | | | | |
| | | | | | | |
| Standard | Ends Down | 6 | | 11 | | 15 |

# *Quick* ENDS-DOWN *Check Spots Spinning Troubles*

**► Three fast tours of the spinning room by a girl shows frames that have too many ends down.**

**► Each frame averages taking only 1.6 min. of the girl's time.**

**► Result: A sure answer to "How's your spinning running today?"**

**By HARRY BRASSEUR**
**Managing Director, Cotonniere Nouvelle Orleans, Ghent, Belgium**

Harry Brasseur said "This is my second trip to America since the war. America has helped me so much that I want to do something in return. I've seen no one using an ends-down control tool such as the one we use in our mills in Ghent, Belgium; but it has been such a help to us that I believe some mill men in America might find it useful. If so, it is only a small expression of gratitude for the help I've received."

WE USE DAILY ends-down checks as a trouble-shooting tool in our spinning rooms. From these checks, we know each day if each spinning frame is running satisfactorily or if a particular frame is a trouble-spot.

The method we use is a short-cut method that any spinning overseer can use, whether or not his mill has a methods-and-standards or quality-control department.

It consists basically of having a girl tour the room once a day and record the ends down she finds on each frame. If a frame has more ends down than the standard that has been set, she visits it a second and possibly a third time. If it is out of control, it's time to see what's the matter. Then we make a standard ends-down test on that frame.

In one of our mills (56 spinning frames with 22,000 spindles) these tours and the score the girl keeps on ends down take up 1½ hr. of her time.

The accompanying ends-down form shows how we record these checks.

(*Continued on page 258*)

BRYTEX FIRMEL
A partially polymerized resin of large molecular structure. Produces a crisp hand and a high lustre glaze. Permanent when used with catalyst and cured. Dissolves readily, stores indefinitely, extremely economical.
BRYTEX SPECIAL FINISHES
BRYTEX GUM 813G
Recommended for Sanforized finishes. A finish and weighter that will not become tacky or discolor at high temperatures. May be used with oils, softeners or starches. Retains fabric brilliance.
BRYTEX RESIN DJ
UF condensate for fabric stabilization, crush resistance, and permanent glaze. Advantages: Rapid solubility at low temperatures, exceptional storage life, permanency and quality of finishes obtainable at minimum cost.
Brytex PRODUCTS
generous free samples
BRYANT CHEMICAL CORP.
N. Quincy 71, Mass.
Box 2301, Spartanburg, S. C.
Please send free sample for plant test of—
☐ RESIN DJ ☐ FIRMEL
☐ 813G GUM
NAME
POSITION
Tear out-attach to your plant's letterhead

# SEWAGE PROBLEM Solved By Headwork and Teamwork

► **Ordinary "untreatable" wastes, when pretreated by the mill, may be assimilated by the usual city system of waste disposal.**

► **By channeling treated waste through the city system, stream pollution by raw mill-waste can be avoided at minimum expense to the mill.**

**By DR. NELSON T. NEMEROW,** Assistant Professor, N. C. State College

IF A MILL'S SYSTEM for processing waste liquors can be tied in with a city sewage disposal plant, subsequent stream-pollution can be minimized. Coordination of the flow, from the mill, of neutralized, treated waste to the city system can solve the problem, Salisbury Cotton Mills has found.

The solution to the problem was sought by the city of Salisbury, N. C., and the N. C. State College Sanitary Engineering Laboratory, in cooperation with the Salisbury Mill.

Analysis of the problem was approached by a field research team that sought several basic facts, and related them in such a way that solution of the problem seemed feasible.

### Mill Must Analyze Problem

Some parts of the textile-waste treatment should be the mill's responsibility. These are as follows:

1. **Equalization of the wastes**—mixing strong wastes with weak wastes to lower the concentration.
2. **Neutralization of wastes**—mixing acid wastes with alkalis, or other chemical treatment.
3. **Proportioning flow of waste to the city system**—gearing the discharge to minimize danger of overtaxing the city system's ability to dilute and treat the waste.

The three steps outlined above are practical problems that must be handled as efficiently as possible by the individual mill. Wastes from each process differ in chemical content and in relative volume. The plant chemist and engineer should analyze their problems. Points that must be considered at the plant, outside of the obvious chemical ones, are primarily economic in nature. Facilities for temporary storage of waste, piping, supervision, and cost of treating-chemicals must be studied. Provision for the exclusion of untreatable wastes from the system must be made.

### City Has Its Problems

The city disposal plant must be prepared to handle two problems:

1. **Removal of colored matter**—a process to make the wastes appear clean and clear.
2. **Removal of organic oxygen-demanding matter**—a combination of chemical precipitation and biological oxidation of the wastes.

Here again the problem becomes individual. Salisbury found aluminum sulfate to be efficient as a color-removing agent. 200 parts per million of alum were sufficient at a pH of 8.3, but only 140 parts per million were needed at pH 7. This points out the advantage of neutralization. This alum treatment also reduced the demand for oxygen over a 5-day period by 63%.

Careful sampling of the mill wastes over two 24-hr. periods, charting the test results, and comparing the charts with city sewage after the influx of mill wastes, over a separate sampling period, were the first steps. The results of these checks served to define the schedule under which the disposal plant could most efficiently operate, and also provided two curves for each type of pollutional characteristic over the entire 24 hr.

One curve was the baseline curve, or the domestic sewage alone. The other showed the effect on the domestic sewage caused by the mill waste. It was then possible to determine what percentages of the total pollutional loads were contributed by the mill and when such loads could best be assimilated by the domestic sewage.

A portion of each hourly sample was poured into a 5-gal. container, and a 24-hr. composite sample was obtained. This composite sample was taken to the laboratories at N. C. State College. Then research work, as differentiated from the field investigations, began. The first laboratory study was made to decide if chemical treatment could be used to remove effectively color and organic pollutional matter from the combined waste.

Later, a third 24-hr. field investigation was carried out similar to the first sampling period. This investigation was made to verify the previous results and to demonstrate the effect of efforts by the mill to equalize and proportion their waste flow.

It was found that the variation between the peak flow, which occurred at noon, and the minimum flow which occurred at 4 a.m., was 100%. It was, therefore, quite important that the plant be designed to handle the peak loads and not the average loads. It was also concluded that the mill's method of proportioning the dye waste according to the sewage flow eliminated any shock pollution from reaching the plant during the period of low flow.

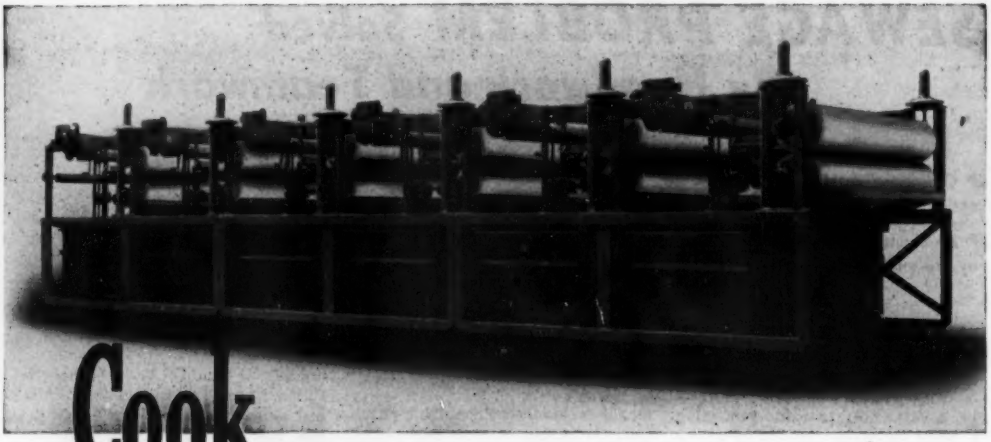
The pollutional load and character of Salisbury Cotton Mills' wastes were verified. The color and chlorine demand of the mill waste were the main pollutional characteristics, while the biochemical oxygen demand (B.O.D.) and relatively high pH of the waste were also of some concern.

### Combined Wastes Now Treatable

The laboratory research project following this sampling period showed that the combined sewage and dye waste was treatable by biological methods either before or after chemical treatment with alum. The optimum combination of chemical treatment followed by biological treatment reduced the 5-day B.O.D. over 86%, caused a color reduction of 83% as measured electrically, and effected a 60% reduction in chlorine demand.

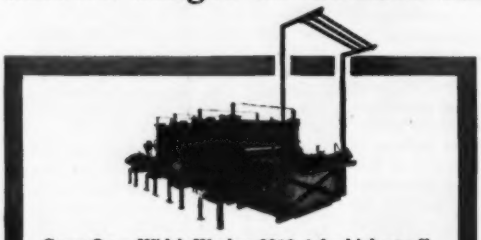
Alum required in the primary chemical treatment was 120 parts per million, which was 27% higher than that required when alum was used following biological purification. Alum treatment alone, as a primary device, caused by a 67% B.O.D. reduction, an 86% color reduction, a 48% chlorine-demand reduction, and resulted in an effluent with a pH of 7.3.

(*Continued on page 250*)



# Cook PN 100" face WASHER

## allows single or double stranding without rethreading

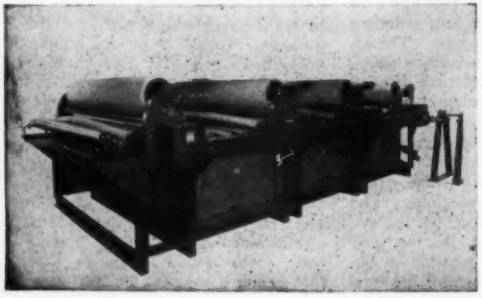


Cook Open Width Washer 8812-1 for highest efficiency with minimum water consumption. Strong stainless steel construction. Accessible. Easy to clean boxes.

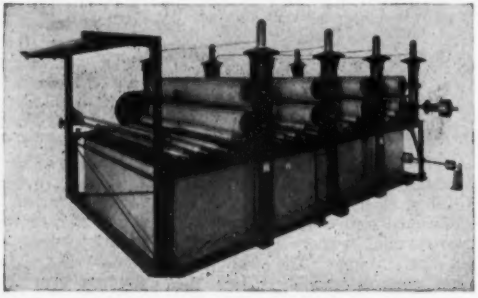
This Cook style D 100" face Washer 5786-1 is designed for rigidity and convenience of operation. Fabricated steel throughout and supported by I beams running across the machine making the complete machine one integral unit. Tanks are of stainless steel designed to be removed from the machine without disassembling any other part. Guide rolls are skyed for more complete washing. Preceding each nip is a single and a double expander preceded by an adjustable roll which allows single or double stranding without rethreading.

All Cook machinery is fabricated in our own shops allowing design flexibility *without* premium cost. Stainless steel fabrication eliminates broken castings and factory-made repair parts. All machines are guaranteed to perform as specified.

Your request for information will receive prompt attention.



**COOK 100" Face Washer 8856-1** is strong without excessive weight. Tanks made to fit your usage. Completely equipped with self-aligning ball bearings. Weight and lever, pneumatic or micro set pressure available. Side shaft drive shown; others are arranged with individual nip drive. Made in all widths.



**COOK Crabbing Machine 6401-2** or Washer with stainless steel tanks supported by rigid frame of stainless steel which also mounts the guide rolls, squeeze rolls, tension device and roll-up. Two to ten tank machines for widths of fabrics. Each tank has four immersion rolls running in rubber or graphalloy bearings.

**COOK-P&N MACHINE CO., INC., 365 Dorchester Ave., Boston 27, Mass.**

Pointers FOR SUPERVISORS

# STAFF DEPARTMENTS Can Help If You Use Them Properly

**▶ Operating men sometimes resent the specialists the company hires to solve problems and give expert help. Friction between line and staff men is all too frequent. But a smart supervisor will learn to use these staff men without letting them run his business.**

By **FRANK T. DE VYVER**
Vice President and Director of Personnel Relations, Erwin Mills, Inc.

To the foreman in a well-established organization, the question of lines of authority seldom arises. Such a fortunate foreman is simply not aware that there are organization problems that bother thousands of other supervisors. Yet because these problems exist to a greater or lesser degree in every plant, everyone in management should occasionally pull back the curtains and closely examine the lines of authority and responsibility.

Let me review first the usual meaning of line and staff relations. In any mill, the operating departments are those that produce the goods. The first step in the line of authority in production is the assistant foreman. His boss is the second step in the line and so on up to the general manager and the president of the company. Usually there are no organization problems when such a line of authority is well described. From time to time, of course, someone in the line will forget himself. Instead of passing orders to the executive immediately below him, he will jump that person and give orders to someone several steps down the line or even to employees operating machines. Such actions on the part of higher supervision are not excusable in good organizational procedure and may make some real problems. The top bosses belong to the same lodge, so to speak. They are part of the line that produces goods, and their deviations from correct procedure are, therefore, often excused by their fellows on that line.

### Industry Needs Specialists

An organization of any size, however, must have some specialists around to answer questions about the variety of problems arising in manufacturing. Do we need to know the cost of making an item? Of course, the foreman may be able to do the figuring involved, but how can he be expected to produce cloth if he has to spend his time figuring at his desk? Do we need to know the breaking strength of a piece of cloth? Certainly the foreman could find that out, given the proper equipment in his office, but he has the cloth to make. Let someone else test the breaking strength. Does someone need to talk to all those folks waiting in line hoping for jobs? The foreman's job is talking to people. He could interview the people in that line too, but, he pleads, "Can't you leave me alone to produce yarn?"

For those special tasks, management has developed what are called staff departments. The number of special groups or staff departments will depend upon the size of the business and the special needs of the organization. The modern foreman, however, must learn to work with these aids if he is to have high production of good quality cloth. Yet in every organization there are likely to develop important and irritating questions about the staff departments and their place in the general organization of the company. These questions arise because both staff and line people sometimes forget the other's place in the organization.

### Line-Vs.-Staff Friction

Line executives, for example, from assistant foremen to the general manager or higher, are often jealous of the work done by a staff worker. Such an attitude is not strange. Except in large corporations, the line management has until recently been its own staff for all matters remotely involving manufacturing. The best supervisor was the one who knew all the details about his department. As management re-discovered the great truths about the economy of division of labor, specialists were called in to look after details. To many line folks, the coming of these specialists seemed to undermine the operating job. Everyone has heard of the man who refused to take a vacation because he was afraid that while he was away the company would find out it could get along without him. The line supervisor who is jealous of the work of the staff is close kin to the man who did not take a vacation. He may be afraid his boss will think his production job is really no longer important.

### Line Men May Resent "Outsiders"

Perhaps a more basic reason for line jealously of staff is the desire of the line executive to retain every responsibility. It hurts his ego to give up anything. Or perhaps, as the psychologists might put it, his feeling of insecurity is apparent. Only a man quite secure in his knowledge of the importance of his job can easily turn over what have been portions of that job to someone else. Of course, the insecure man will tell you he's the only one who can do those parts of his job, or that he can do them better than any "outsider." What he means is that he doesn't have enough self-confidence to let go of any authority, rights, or duties he once may have had.

Probably of equal if not greater importance as a reason for possible line-staff conflict is the attitude of the staff

(Continued on page 224)

# Air-Borne "Friction Fighter"

# Alemite OIL-MIST Lubrication

* extends bearing life as much as 17½ times!

cuts oil consumption up to 90%

boosted production 50% at one plant!

Here from Alemite—world leader in lubrication—is lubrication progress so major—so far reaching—as to command the interest of *every* executive concerned with industrial lubrication practices and costs. Alemite Oil-Mist! The most efficient, continuous, fully automatic system in the field of machinery lubrication.

Alemite Oil-Mist! The system that atomizes oil into *mist*—distributes it through tubing to bearings—bathes *all* bearing surfaces with fresh, clean, cool oil film. A system that simplifies and materially cuts the cost of machinery lubrication. And the lubricator unit has no moving parts.

Oil-Mist uniformly maintains oil film on plain and anti-friction bearings, gears and chains *regardless of variations in load, temperature or speed.* Eliminates the "human element."

**Check All These OIL-MIST Advantages!**

- Reduces bearing temperatures as much as 20%.
- Continuous, uniform lubrication of all bearings.
- Air pressure seals bearings against dirt.
- Reduces oil consumption—up to 90%.
- Prevents product spoilage.
- Eliminates guesswork — each bearing picks up as much Oil-Mist as it needs.
- Reduces starting and running torque.

**ALEMITE OIL-MIST**
**Lubricates All Types of Mechanisms**

* **Reports Like These Prove Oil-Mist Results!**

**Before Oil-Mist:** 32 Leather Stitchers at an eastern shoe manufacturing company were turning out 80 dozen pair of field boots per day. Pinion gears and other working parts demanded constant oiling . . . constant attention.

**After Oil-Mist:** The same 32 machines and operators are now turning out 120 dozen pair a day—a production increase of 50%! And vital machine parts are well oiled always — automatically — with Oil-Mist.

*Get the Facts NOW!*

Alemite, Div. of Stewart-Warner, Dept. J-62
1850 Diversey Parkway, Chicago 14, Illinois

☐ Please send me a FREE copy of your new and complete Oil-Mist Catalog.

☐ Please have your Alemite Lubrication Representative arrange a desk-top demonstration of Oil-Mist. This entails no cost or obligation on my part.

My Name _____

Title _____

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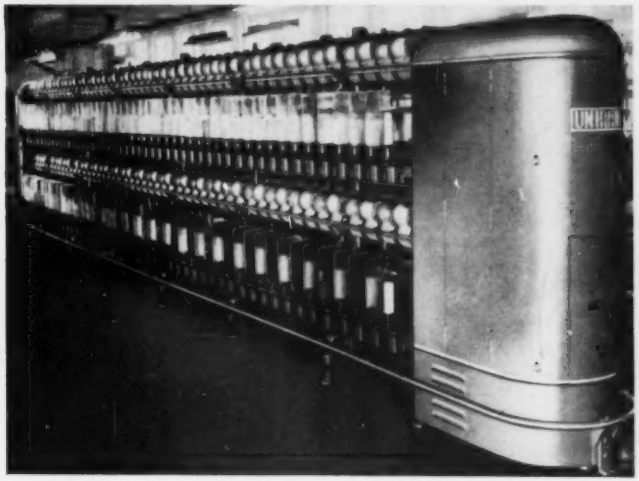
## Alemite OIL-MIST Lubrication

A PRODUCT OF SW STEWART-WARNER

TEXTILE Equipment NEWS

## New "Unirail" Uptwisters Have Constructional Advantages



**ADVANTAGES of the new uptwister include straight threadline delivery, reduction of vibration, reduced over-all tension, and less yarn handling.**

Two models of "Unirail" uptwisters have been brought out by Universal Winding Co., Box 1605, Providence, R. I. One is the headless-package and the other the bobbin-take-up model. The latter provides a bobbin or finger-hanger operation.

Improved yarn quality, better bobbin build, simplified installation, increased production, lower power costs, less maintenance, and longer life than earlier models are advantages promised by the new uptwister.

**Improved yarn quality** is attained from straight threadline delivery, reduction of vibration, freedom from oil dispersion, reduced over-all tension, and less handling of yarn by operators.

**Better bobbin build** results from an improved traverse motion with an adjustable ribbon breaker.

**Simplified installation** stems from pre-erection at the factory and shipment of machines in three sections.

**Increased production** is a result of higher spindle speeds and less operator handling time.

**Lower power cost** is obtained primarily from the new Uniflex spindle that is designed to cut down vibration, reduce bearing loads, and permit safe speeds up to 16,000 rpm. under satisfactory conditions.

**Less maintenance** results from the annual lubrication of spindles, idlers, take-up shaft bearings, and leakproof twist unit. Freedom from oil dispersion reduces lint accumulation and minimizes cleaning.

**Longer life** is promised because of the virtual freedom from vibration of the new spindle and because of the rugged spindle-bedplate construction rather than the conventional spindle rails.

## Mills Can Now Measure Roll Weighting Accurately

A direct weight-measuring device for both lever- and spring-weighted systems has been developed by Dixon Lubricating Saddle Co., Bristol, R. I. The device can be used on both roving and spinning frames, although it was designed specifically for spinning.

The weight measurer can be used on any spinning frame that has a front and back bottom steel roll; it fits on the frame by clamping each end to the bottom steel rolls. Two saddles and two sets of top rolls must be removed before installation, and the frame must be stopped.

The device that supports the spring scale and roll yoke slides on ½-in. square steel bars between the two clamped ends, which can be placed far enough apart to measure the weight on all rolls in one roll stand. The mill can use any length of square steel bar to pick up the weight at various positions on any number of roll stands, provided the weight is not great enough to deform the ½-in. square bar.

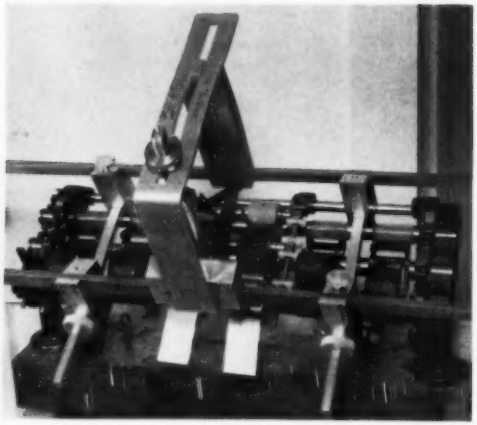
The spring scale must pull up at the same angle as the stirrup pulls down– which means that the support for the spring must be set at the correct angle. This angle is positively held and sets itself automatically to the frame when the clamping at each end takes place.

### How the Measurer Works

To determine the roll weighting needed, the yoke is placed under the end gudgeons of the top rolls and the spring scale is screwed up until tissue paper can barely be drawn from the bite of the top and bottom rolls. The scale reading gives the weight applied.

The scale can be slid from back to front on its support; so weighting can be measured for any top-roll position without resetting the whole instrument. It is easy to move the weight measurer from frame to frame without disassembling. All parts, except the square cross bars, are made of aluminum so that a girl can carry it from one frame to another.

Weights can be checked from frame to frame, or from spinning room to spinning room. Lever and spring weighting systems can be compared. For best results, all systems



**TO MEASURE FRONT-ROLL WEIGHTING** needed, just turn the knurled nut on the top of the device until tissue paper becomes just loose enough to ease out. Scale (arrow) indicates the weighting directly—no figuring required.

should be checked at least annually to see if delivered weights have changed due to wear on the weight-multiplying members.

### Where the Measurer Fits In

Top-roll weighting on spinning and roving frames is one of the important factors in good drafting. There are almost as many opinions as to the proper weights required for different fibers as there are mills to spin them.

There are two axioms for weighting: (1) The less weight you use, the less wear there is on component parts; and (2) use only enough weight to hold the fibers firmly at the nip of the rolls.

Excessive weight may flatten out cots and give greater surface contact to the fibers passing through. This desired result could be more economically accomplished by using cots with greater cushion. Again, extra weight may reduce top-roll slippage. But a change in cot could correct such a problem. Or thirdly, aprons may drive better with greater weighting, but a redistribution of weight would accomplish the same result.

Weight should be only enough to hold the fibers firmly so that accurate drafting can take place between the rolls. Many mills have lost sight of this simple axiom because it is such a task to figure weights mathematically, and also figuring weights on paper is haphazard at best.

The most accurate practical approach heretofore has been to draw the weight-multiplying members five or six times actual size, and get the necessary dimensions from the enlarged drawing. Such a procedure is not possible right in a mill, and even if it were, no numerical method can take into account the loss of computed weight-multiplying members.

With the weight measurer, mills now can easily measure and compare weights, and they will be able to analyze weighting problems rather than adding more weight without any specific plan.

### A Mill Man's Opinion of the Weight Measurer

"The weight measurer is working quite satisfactorily for us. We use it to check our calculations on weighting for dead-weighted saddles and also to adjust our weighting and saddles to give us the best yarns.

"Most of our spinning frames have spring-weighted saddles, and the weight measurer is the only means we have found to determine the distribution of weight between the three lines of the rolls and the evenness of the strength of our springs.

"The device is built for speed and ease of handling.

"It is difficult to point out any direct money savings, but we do feel that the weight measurer is an important aid to our program of quality control by enabling us to get the best possible distribution of weight on the top rolls."

R. M. Mitchell, Jr., Superintendent
Tabardsey Plant, Cone Mills Corp.,
Haw River, N. C.

## 60-In. Semi-Decater Doubles 36-In. Machine Production

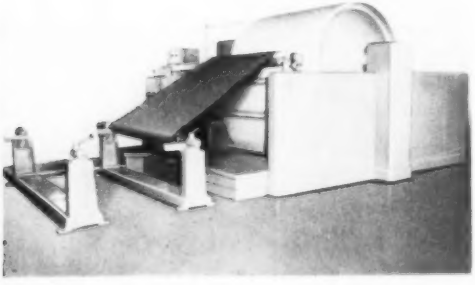
A new 60-in. "Versamatic" semi-decating machine that both produces more, and can take woolen, worsted, rayon, or synthetic cloth from either a roll or fold and deliver it in either a roll or fold has been brought out by David Gessner Co., 41 Fremont St., Worcester 3, Mass. The wider unit has been in successful mill operation for some time.

Uniformity of finish is assured by automatic apron-tension control and the controlled-pressure roll, combined with automatic cycle control for both steaming and cooling.

Another feature of the machine is the automatic apron guide. This device keeps the apron dressed evenly to one side at all times. With a variable-speed hydraulic drive, it assures smooth-running correct-tension high-speed operation, in both directions, with finger-tip control.

The design of the steaming cylinder precludes wetting of the apron. Rapid cooling at low horsepower is another feature of the machine.

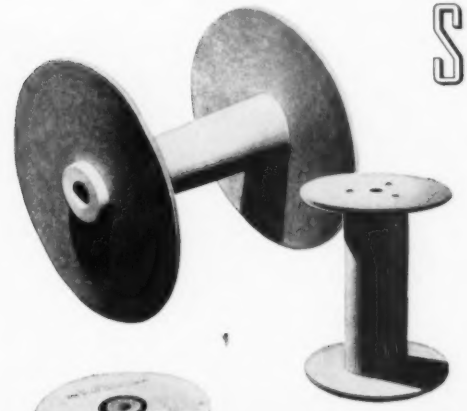
From 6 to 8 pieces of woolen or worsted and up to 1,000 yd. of rayon or other synthetic fabric can be decated at a single loading.



**NEW 60-IN. SEMI-DECATING** machine is reported by mills using it to improve production, shrink tests, and the final finish.

# SONOCO SPOOLS

Precision Paper Products



Perfect carriers for all types of fringe, tapes, braid—narrow or wide fabrics; threads, yarns, cord and rope. Whatever your particular requirement, SONOCO has a spool to give you an efficient, low cost package. All standard types and sizes, or made to your individual specifications.

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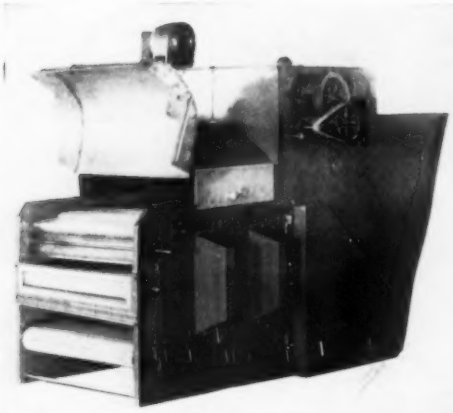
## SONOCO PRODUCTS COMPANY

MYSTIC CONN. | HARTSVILLE S. C. | BRANTFORD ONT.

DEPENDABLE SOURCE OF SUPPLY

## New Tinting Machine Controls Tint Application Precisely



AMOUNT OF TINT applied to synthetic fibers is closely controlled by this machine. Accurate weighings of blended stock can be timed to coincide exactly with the speed of the picker.

The "Unitint" machine, which receives blended synthetic stock from the blending line and feeds controlled amounts through to an all-stainless-steel-enclosed tinting chamber, has been announced by Textile Equipment Corp., Box 1258, Greenville, S. C. The unit is particularly effective when used with the company's Fibermeter automatic blending system, in which flow of stock is timed to coincide exactly with the speed of the picker.

As a result, the rate of production, in pounds per hour, can be set to the rate of the pickers the line is feeding, or to the rate of delivery of the blending line itself.

The percent of tint needed is figured, and is then evenly applied by means of a positive displacement pump and spray nozzle.

After being tinted on the top conveyor belt, the fibers move through a revolving agitating blade beater, which works in conjunction with a curved stainless-steel plate to distribute the tint evenly.

From the blade section, the stock is carried slowly rearward on an intermediate belt and drops to the bottom belt, which in turn carries the fibers to a pipe or conveyor that takes it to the picker or pickers. A bank of infrared drying lamps is optional to speed up the resultant drying action in the case of heavily tinted stocks.

The dryer is compact, yet is constructed of heavy steel plate and heavy-gauge nickel-bearing stainless steel. Shaft bearings are the sealed, self aligning ball type. The enclosed tinting chamber is hinged, as is the heavy curved plate for ease in cleaning and changing of tint colors. Doors on both sides of the machine offer easy access to the drying belts.

The machine comes with motor, belting, tint pump, and controls. It has an effective capacity up to 1,200 lb. per hr. Eight of these units have been in production in a large Southern mill for over six months.

## New Universal Coater Has Self-Aligning Take-Up Adjustments

HEAVY-DUTY SURFACE COATER for moderate-cost application of adhesives or coatings to carpeting or other fabrics, and for pad dyeing, is available for one- or two-side processing.

A new heavy-duty coater, called the "Walco" coater, that is designed for automatic take-up adjustment by means of self-aligning ball bearings has been put on the market by L. R. Wallace & Co., 440 Seaton St., Los Angeles 13, Calif.

In addition to the self-aligning take-up adjustment, new features of the coater are (1) a new all-steel base and fully-supported frame, (2) new roll construction, (3) new pan suspension, (4) easily removable rolls, (5) new top-frame supports for good alignment of rolls, and (6) new precision-machined roll slides.

The C-1 model is standard, with the coating roll placed above the pressure roll in the same vertical plane. The small doctor roll is on the in-feed side. The reservoir is formed by the angular space between the rolls. 52-in. rolls are standard, but rolls down to 20 in. can be furnished. Model C-1 is made for single coating on one side of material.

Model D-2 has two spreading rolls placed one above the other. The upper doctor roll is on the in-feed side, and the lower is on the out-feed side. The reservoirs are formed by the angular space between the rolls. This arrangement is made for coating on two sides.

Six other features of the new coater are: (1) Spreading rolls are well covered with high-grade Neoprene rubber; (2) steel doctor and pressure rolls of steel are ground to give a fine smooth surface for precision coating; (3) accurate heavy-duty ball bearings are employed throughout, sealed to keep lubricants in and dirt out; (4) there are oil cups throughout; (5) all rolls run in ball bearings; (6) screw type adjustments and chain drives give positive drive to sprockets of all the rolls.

## *Identical in Performance*

Every step in the production of Textile Spring-Beard Needles is scientifically controlled to give you needles that are identical in every detail. For only when needles are exactly the same, can you be sure of stitches that are perfectly even.

Uniform performance is only one of the advantages you receive from Textile Spring-Beard Needles. A special steel formula, superior tempering and Textile's quality controls—automatic and electronic—give you better hosiery fabrics, bigger profits.

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# *Textile*

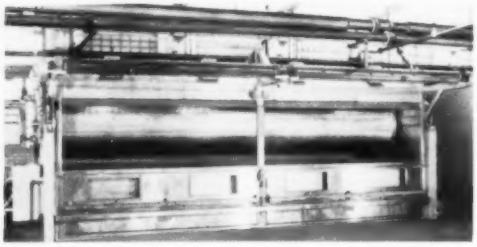
## SPRING-BEARD NEEDLES

*For Full-Fashioned Knitting*

*For Tricot Knitting*

 For more information, write direct or use Reader Service post card. 

## Piece Dyeing of Cotton, Synthetic Rugs Made Practical With New Dye Kettle



**DYEING RUGS of cotton and synthetic fibers or blends thereof can be done successfully in the piece in this new kettle with a large-diameter reel.**

A new dye kettle, called the TLBT-X dye kettle, has been developed by Riggs & Lombard, Inc., Foot of Suffolk St., Lowell, Mass., for the dyeing in the piece of rugs made of cotton and synthetic fibers or blends of these fibers.

The latest adaptation of the company's standard TLBT model dyes in either rope form or full open widths. When it is used for dyeing in rope form, a stainless-steel guide keeps the pieces separated. When the rugs are run in open widths, a Riggs & Lombard Electri-Matic cloth guider keeps the fabric in open width, free from wrinkles, and centered in the kettle.

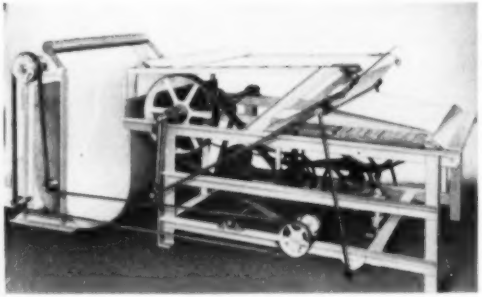
The center post that appears in the illustration here is eliminated for open-width dyeing, and the door is one piece, full length. For both types of dyeing, the reel is normally of large diameter and consists of a multi-grip type drum that insures against slippage.

The new kettle is said to eliminate tangle and tie-up by its unique design and by the multi-grip type reel. Goods balloon, move around, and change over readily to avert wrinkles, creases, and dye streaks.

Substantial savings in dyestuffs result from exceptional efficiency in operation, the company reports, with a saving of steam obtained from the totally enclosed top estimated at 25 to 30%. Construction is all stainless steel.

The balance of the equipment used in the new kettle is similar to that in the company's standard-type woolen and worsted piece-dye kettles. Information on the proper finishing of the rug-dyeing operation, details on the squeeze-roll extractor, and the application of compositions used in anchoring the pile to the base material, can be obtained from the company.

## New Cloth Folder Has Air-Operated Table, Jaws



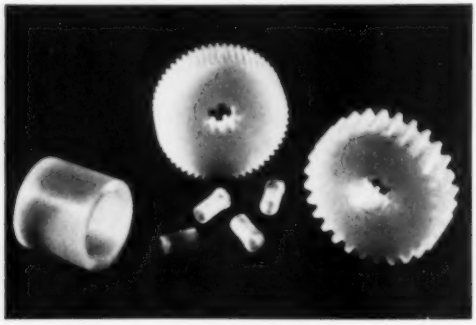
**"AIR TYPE CLOTH FOLDER" has a pivoted air cylinder that reduces piston side thrust and cuts down on repacking frequency.**

A new type of cloth folder with air-operated table and jaws, pivoted air cylinder, steel tubing for connections between the cylinder and the table irons, and rectangular steel tubing for the table irons has been brought out by Hall & Jansson Co., 177 Highland St., Worcester, Mass. It is called the "Air-Type" cloth folder.

The pivoted air cylinder is said to almost entirely reduce the side thrust of the piston against the cylinder walls, so that shutdowns for replacing packing, as well as the cost of repacking, are materially reduced.

The photograph to the left shows a No. 2 low-top machine, with low feed rolls at the back. The machine is also available in the No. 4 style, with high feed rolls at the rear and the rails sloping downward toward the operator for inspection purposes. An overhead or high-top style is also available.

## Molded Nylon Bearings Developed for Mill Use



A line of molded-nylon gears and bearings for use in textile machinery has been brought out by Columbia Protectosite Co., Inc., Bearing Div., Carlstadt, N. J.

The manufacturer reports that users say that the applications developed so far are called superior to ordinary gears and bearings because the units do not have to be lubricated, are extremely tough and abrasion resistant, are inert to most chemicals, and in many cases cost less than gears and bearings of other materials.

The manufacturer makes up samples to order to meet individual mill requirements.

**THESE MOLDED BEARINGS are made from nylon plastic and are extremely tough and abrasion resistant. They also require no lubrication. Samples are made up to meet the needs of any mill installation.**

NOW-

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## "Verybest" Check Straps!

- **"Verybest" CRESCENT** — *Curved*, cut and shaped to conform exactly to the angle of the picker stick.

NEW!

- **"Verybest" ENDLESS** — *Circular*, in the new oval shape. Glued and nylon-stitched for durability.

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- **"Verybest" REINFORCED** — *Expanded*, with 12½% more wearing surface. Permits more gradual checking, cuts loom shock, saves power. Conforms to the angle of the picker stick.

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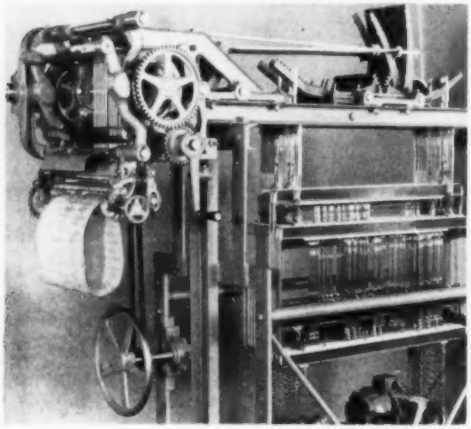
**NORTHERN DIVISION**
Danielson, Conn.

## Paper Patterns in Dobby Motion Offer Pattern Make-Up Time Savings



CAM-DRIVEN DOBBY KNIVES on this Staubli dobby head make it possible to keep the shed fully open up to a 120° turn of the crank shaft.

CARD-PUNCHING MACHINE cuts and copies dobby cards quickly from a master pattern. Card cutting is said to be much faster than the building of peg chains.

Dobbies with cam-driven knives that let the shed stay open longer, equipped with either wooden lags and pegs or a pattern-card setup, are now being offered by H. J. Theiler Corp., Whitinsville, Mass.

With the cam drive, the shed stays open up to 120° of the turn of the crankshaft, and shed changes take place very rapidly. The quick changing of the shed is said to keep warp ends from sticking together and snagging during shedding.

The dobby heads can be supplied with either the hand or the mechanical pick finder. With the pick finder, the weaver can disengage the dobby from the loom and turn it backwards or forwards alone, when finding broken picks. When the correct pick is open again, the dobby is re-engaged with the loom, and weaving can continue.

Disengaging the dobby is also useful over weekends, when the harness can all be lowered so that tension will be the same on all the warp ends. When the loom is started up again, no set mark will be visible.

The Staubli dobbies can be fitted to any make of loom, either with an arch or of the new low-built type.

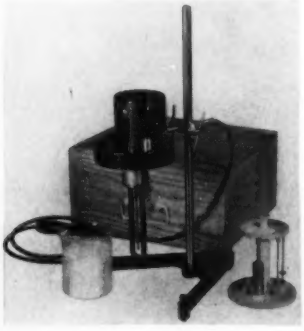
### Paper Patterns

A supply of card-cutting paper comes with the dobby motion. The desired pattern is cut on the paper by the card cutting and copying machine. One such machine will take care of several hundred dobbies. The cutting of a paper card is much faster than the making up of the pattern on wooden lags and pegs.

One yard of paper contains 300 picks. It is possible to have patterns of 12 to 15 yd. in length of paper, which means up to 4,500 picks on one pattern.

Two-paper-pattern cylinders, made especially for weaving cross borders, as for instance in napkins and table cloths, are also available. The switching from one cylinder to the other is done automatically, so that all pieces woven in the same pattern will always have the same length.

## New-Model Viscometer Gives Determinations Directly



An 8-speed viscometer with a 200-to-1 ratio of speeds starting at 0.3 rpm. has been brought out by Brookfield Engineering Laboratories, Inc., Porter St., Stoughton, Mass. Known as Model LVT, the unit is one of several new models recently added to the company line.

Where wide ranges of viscosity are or may be encountered, the LVT viscometer is said to be ideal. When equipped with a UL Adapter that gives special amplifying effects, the new model can measure any viscosity between 0.5 cps. and 2,000,000 cps. with extreme accuracy.

Determinations are secured directly in centipoises by inserting the selected spindle in the solution, flicking the switch, and reading the dial.

The unit is portable. It is accompanied by a set of suitable spindles of varying masses, a spindle holder, and carrying case.

VISCOMETRIC DETERMINATIONS are obtained directly on this new viscometer by means of various-weight spindles and a direct-reading dial.

# Gaylord Boxes Assure Faster, Easier Packing and Shipping

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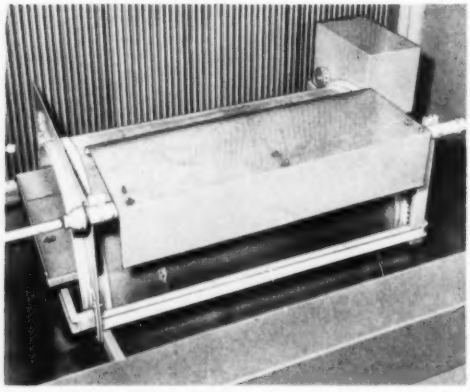
## Suction Strainer Developed for Air-Conditioning Systems



ROTARY STRAINER designed to cut maintenance costs on air-conditioning systems is self-cleaning.

Its new Type-B automatic suction strainer will cut air-washer maintenance in textile air-conditioning systems, the manufacturer, Bahnson Co., 1001 So. Marshall St., Winston-Salem, N. C., reports.

The new rotary strainer is designed to (1) prevent clogging of spray nozzles, (2) remove lint from circulated water, (3) be self-cleaning— flush lint away, (4) allow washers to operate at full efficiency, (5) be fully automatic— no lint baskets nor trays to empty, and (6) require little attention, be easy to install, be simple to maintain.

The Type-B strainer automatically removes lint and other foreign matter from the water recirculated by the washer pump. The strainer is thus preferably located in a compartment within the water tank at the entering end of the washer. The compartment containing the strainer should be partitioned from the tank so that all water passes through the strainer cylinder and on to the pump section line.

In new installations, provision can easily be made for installation in metal or concrete washer tanks. On existing washers, the tank can simply be extended if it is not large enough to accommodate the strainer. If extension is impractical, a self-contained model is available for certain capacities.

Single units are effective for washers handling up to 110,000 cfm. Multiple installations are possible for larger washers.

## Evaluating Fabric "Warmth" Made Easier With New Tester

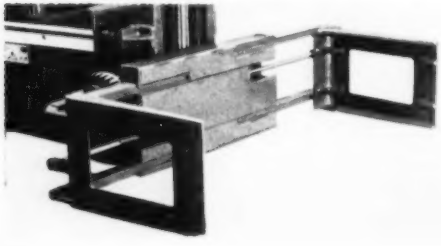
METAL ARM on this warmth tester subjects the tested fabric to wind velocity as well as cold.

A warmth-testing apparatus has been developed by Southern Regional Research Laboratory, 2100 Robert E. Lee Blvd., New Orleans, La., that tests the insulating power of fabrics by measuring the energy required to maintain a constant temperature under the most severe Arctic conditions.

A metal "arm" clothed in a sleeve of the fabric to be tested is lowered into a freezing unit in which a fan has been installed to maintain a wind velocity of 12 to 13 mph. over the surface of the fabric. The combination of wind with adjustable cold temperatures provides a better means of evaluating fabrics, under conditions similar to those prevailing in Arctic regions and other cold climates, than is provided by the usual still-air tests in ordinary laboratory procedure.

The apparatus has already been used to evaluate a number of experimental cotton fabrics that are commercially available now. And a model of the tester is being built and installed by a large merchandise house to evaluate the warmth of various textile materials sold to consumers.

## "Wide-Spread" Clamp Has 69-In. Spread



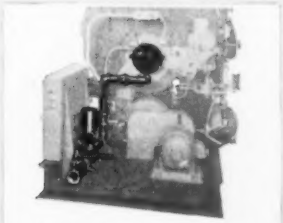
THE CLAMP developed by Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich., for use on its electric and gas-powered 2,000 lb. fork-lift trucks in handling cotton bales and similar items has been redesigned to incorporate several improvements.

The inside diameter of the "Wide-Spread" clamping cylinder has been increased to $2\frac{1}{4}$ in. to permit clamp operation under lower proportionate working pressures, with a top limit of 1,000 lb. psi. Increased efficiency and longer life of the mechanism are the advantages cited.

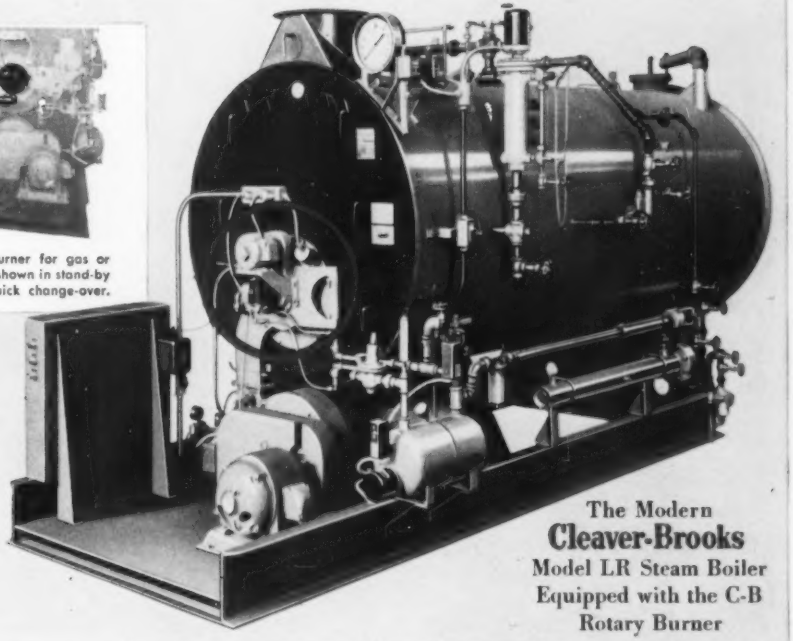
In addition, maximum clamp-arm spread has been increased to 69 in., but the over-all width of the assembly remains at 40 in. Minimum clamp-arm spread is 19 in.

The clamp arms have lugs to prevent slippage in bale handling.

# unmatched Flexibility of operation ...and of quick fuel change-over



Combination burner for gas or oil. Oil burner shown in stand-by position for quick change-over.



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**Cleaver-Brooks**
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Equipped with the C-B
Rotary Burner

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✓ **Equally high efficiency using heavy No. 6 oils (or lighter oils) and all types of industrial gas**

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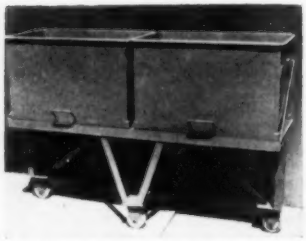
Builders of Equipment for the Generation and Utilization of Heat • Steam Boilers • Oil and Bitumen Tank-Car Heaters • Distillation Equipment • Oil and Gas-Fired Conversion Burners

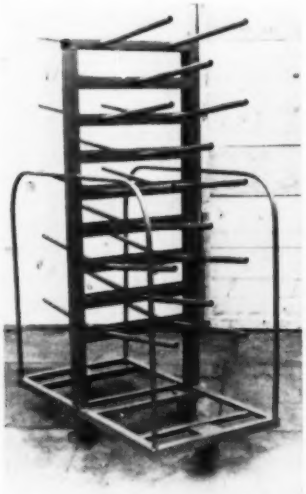
## Practical Line of Trucks Offers Ease of Handling

▶ The trucks shown below are being made available to textile mills by J. C. Paddock Co., South Church St. Extension, Spartanburg, S. C.

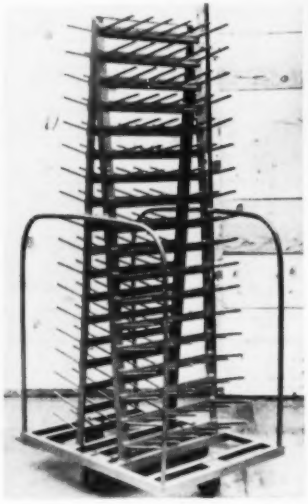


SPECIAL SPOOLER DUMP TRUCK, for bringing yarn to the spooler and for taking away empty quills, eliminates lifting of boxes.

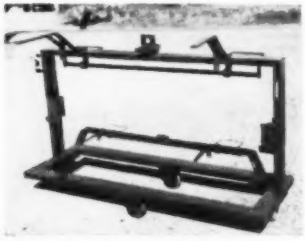
TRIDENT TRUCK is designed for transporting Barber-Colman spooler cheeses to warpers or twisters. It has 10-in.-dia. side wheels.



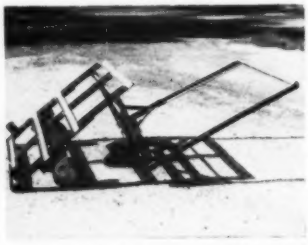
CHEESE TRUCK eliminates the use of cheese boards at the twister. Yarn is at all times within easy reach for creeling without bending over a box. The truck is of all-steel welded construction.



THE 216 PINS on this truck replace the pin board ordinarily used in doffing twisters running on synthetic yarns. Advantages are (1) no yarn damage, (2) no lifting, and (3) compact storage space.

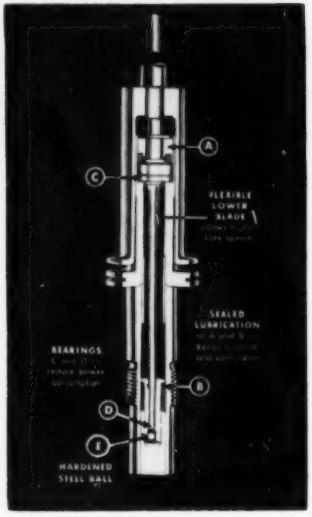


WELDED WARP TRUCK has a steel top frame that lifts off with the warp when direct overhead lifting is needed in the narrow alleys that exist in some mills.



PATENTED LIFT TRUCK, originally designed by Deering-Milliken, enables one man to cap, strap, stencil, packing-slip, and push away up to 100 heavy cartons in 8 hr.

## "Uniflex" Uptwister Spindle Gives Speeds to 16,000 Rpm.




DIFFERENT SPINDLE DESIGN at the lower blade, which allows easy off-center rotation if necessary, reduces bearing loads and permits higher speeds with this new spindle.

A new uptwister spindle (called the "Uniflex") that promises higher uptwister production, lower power and maintenance costs, and cleaner yarn has been developed for endless belt-drive uptwisters by Universal Winding Co., Box 1605, Providence, R. I.

The advantages are designed to result from the different spindle design that permits spindle speeds up to 16,000 rpm. under satisfactory conditions. The spindle design also lowers bearing loads to a minimum, reduces oiling and cleaning cycles, and eliminates oil dispersion.

The principle feature of the Uniflex spindle design is the slender, flexible lower blade that allows off-center rotation of bobbins that may not be perfectly balanced without the building up of excessive bearing loads. The size and location of the bearings and the sealed-in lubrication system that eliminates free oil in the spindle step are also contributory factors to the advantages of the new spindle.

**TEXTILE *Equipment* NEWS**

Continued on page 260

**You don't have to pay BIG MONEY to get BIG TRUCK advantages**

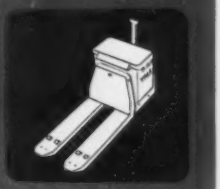
# Industry cuts handling costs with YALE *WORKSAVERS*

YALE WORKSAVER Electric Trucks are ideal where size and weight make big trucks impractical...over low-load floors; in freight elevators; railroad cars and trucks.

Industry prefers YALE WORKSAVERS because they offer big-truck efficiency for less cost, plus these big truck advantages: forward and reverse power travel...powerful hydraulic lift.

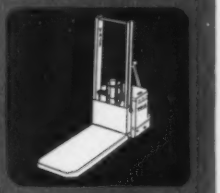
**MAKE THE MOST of your time and space** ——YALE Electric Worksavers, industry's leading *powered* hand trucks, move loads up to 7,500 lbs. into and out of *all* storage and production areas.

**MAKE THE MOST of your manpower** ——one part-time operator and a YALE Worksaver transport, lift and stack multi-ton loads safely, surely and smoothly.

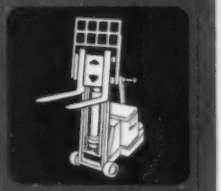


Pallet Worksaver

Tractor Worksaver



High-Lift Platform Worksaver



High-Lift Fork Worksaver

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# NEW Dyes AND Chemicals

## Silicone Resin Gives Durable Water-Repellency

A new durable water-repellent finish that promises to be of interest to textile manufacturers, long plagued with problems of finishes failing too early in the life of fabric, has been announced by Arkansas Co., Inc., Newark, N. J.

Named "Hydro-Pruf," the new finish is an innovation in that it is said to represent a definite departure from established theories and processes and to be entirely different chemically from other durable water repellents in the field. It is said to be a non-foaming silicone resin.

Fabrics processed with the resin will stand many dry cleanings or go through many launderings with their resistance to spotting and water repellency only slightly impaired. With an initial spray rating of 100 by the AATCC spray test, a drop to only 90 is reported after as many as 20 dry cleanings of one acetate-viscose gabardine, the makers claim.

Besides producing a truly durable water-repellent finish, Hydro-Pruf imparts a most desirable hand: one that cannot be matched with other finishing compounds. The use of the resin in conjunction with thermo-setting resins tremendously improves crease resistance, stabilization, and resistance to abrasion.

The resin is non-toxic, has no objectionable odor, comes in liquid form, and is readily miscible in cold water in all proportions. It may be applied from a hot or cold solution as desired. A minimum temperature of 300° F. is required for curing to produce satisfactory results. Hydro-Pruf is compatible with urea-formaldehyde and melamine-formaldehyde resins and with many of the non-curing type resins, it is said.

## Synthetic Detergent Is Stable To Reduction and Oxidation

A new development in the field of synthetic detergents is claimed by Hart Products Corp., 1440 Broadway, New York. This product, called Hartopon B, is a pure white paste that displays excellent detergency and sudsing action. It is a modified fatty-alcohol sulfate manufactured for the textile industry in high concentration and available at exceedingly low cost.

It is recommended by the makers for use in virtually all cleaning operations, such as the scouring of silk, cotton, rayon, acetate, wool, nylon, Orlon, and Dacron. It is used with great efficiency and economy in jig- and box-type scouring, in kier boiling, in soaping-off prints, and for the removal of sizing, oils, and dirt. It is stable in the presence of oxidizing and reducing agents; reduces the harshening effect of vigorous scouring procedures; and possesses outstanding protective action, dispersing power and detersive qualities, the maker claims.

Hartopon B is effective in very low concentrations, cleans thoroughly, and rinses rapidly and completely in hard or soft water. Its low cost, high activity, and wide range of uses make it an unusually economical, all-purpose detergent for scouring operations, it is claimed.

## Gas-Fading Inhibitor For Application in Dyebath

A new inhibitor for protecting acetate material colored with acetate dyes from the fading due to atmospheric gases is being marketed by the Du Pont Co., Wilmington 98, Del., under the name of Anti-Fume S Solution. The product contains the anti-fume agent in a high-boiling solvent that has a high flash point for safe operation.

The material is a clear, dark-brown solvent-type inhibitor. For best results, the inhibitor should either be added directly to the dyebath or diluted with water at 100 to 110° F. to form 25 to 35% stock emulsion, and then added to the dyebath. Although it is recommended that the temperature of the dyebath should not exceed 110° F., when the inhibitor is added and the dyeing started, laboratory tests have indicated that this temperature can probably be as high as 140° F.

The inhibitor forms good and stable emulsions at temperatures ranging from 80 to 110° F. in either dilute or concentrated form (2 to 3%) either by diluting or adding to water. In concentrated emulsions (12 to 34%) at temperatures of 140 to 180° F., there is a noticeable oily-brown separation visible on the surface in about 5 min.

However, if the concentrated emulsion is first prepared at 90 to 110° F., it can be added to water to form a dilute (2%) emulsion of good stability at temperatures up to 140° F., the makers claim.

Although there is a slight oily separation visible after the emulsion has been allowed to stand for approximately 10 min. at 140° F., it is readily dispersible with only slight agitation. It is believed that the usual agitation present in dyeing operations is sufficient to prevent this formation.

## New Greenish-Blue Direct Dye Will Fill Long Need

Pontamine Fast Blue CPL, produced by E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del., is a direct dyeing, greenish-blue recommended for good light and washing fastness on viscose-process rayon when after-treated with resin finishes.

On non-resin-finished direct-dyed rayon, it possesses very good resistance to light and is slightly inferior in this respect on cotton, the company claims. Fade-Ometer exposures on rayon show that the original shade is retained (does not go red), although the dyeing goes weaker.

The product is of particular interest in the dyeing of rayon dress goods, sportswear, drapery, and upholstery materials and in many other end uses where light and wash fastness, after resin treatment, are of utmost importance.

The new dyestuff has excellent hot solubility, and penetrates and levels well. Spectrophotometric measurements of the color remaining in the dyebath show that the color is almost completely absorbed on either rayon or cotton. Effect fibers indicate that it produces a trace stain on acetate and nylon while silk is stained considerably and wool very much. Pontamine Fast Blue CPL can be used as a shading color for the cotton in cotton-wool unions, and in cotton-rayon mixtures it dyes the rayon stronger and brighter (greener) than the cotton.

Application of the dyestuff is possible in all types of dyeing equipment. The color is said to be dischargeable to a good white on cotton and is rated as being good to fairly good on rayon.

## New Line of Tints Fugitive After Steaming

After four years of effort devoted to the development of a new line of all-purpose fugitive tints, United States Testing Co., Inc., Tint Div., Hoboken, N. J., has announced such a line.

The need for a tint fugitive on wool after steam setting has existed for years in the textile industry.

The company has now developed such tints that will be distributed under the trade-name "Blentex." This new line was developed particularly for wool, but has the outstanding advantage of being suitable also for blends of fibers such as nylon, Dacron, Acrilan, dynel, Vinyon, Orlon 81, viscose, acetate, and cotton, the maker claims. With the increase in the number of synthetic fibers and the use of blends of natural and synthetic fibers, these tints fill a much needed requirement.

The tints are liquid dye-concentrates readily soluble in water. They can be applied as a spray on the loose stock in the opener, daubed on cones or quills, or applied to the sliver or roving, or by any other means now employed. Sold in concentrated form, they should be diluted with water. Proportions of 1½ parts of Blentex to 98½ parts of water produce a suitable tint solution that assures proper identification.

When applied in the concentrated form to sliver or roving by means of a marking wheel or similar application, the marks should be spaced so that application is proportionate to about 1% of the weight of the stock. When spotted on sliver or roving, it gradually spreads itself throughout the stock during subsequent processing so that the final yarn shows an over-all tinting.

These tints are readily fugitive in the usual mill scouring treatment, the makers

(Continued on page 222)

# use NYTRON

TRADE MARK REG. U. S. PAT. OFF.

## for your TEXTILE OPERATIONS...

- scouring prior to yarn and cloth dyeing
- rope soaping of dyed cloth
- as a penetrating and leveling agent in dyeing operations
- carbonizing of wool (wetting and penetrating)
- scouring woolen, rayon and nylon piece goods
- many other textile operations
- and for general plant cleaning

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- Excellent Emulsifying Power
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Use NYTRON for wools . . . nylons . . . rayons . . . cottons! You'll get better and more rapid soil removal, improved suspension of soil, faster and more complete rinsing.

NYTRON is not a soap, not an alkali, not a mixture; it is a patented wetting agent-detergent with an exclusive combination of properties that give you the kind of performance you have always wanted in a detergent. Use NYTRON for your textile operations and see the difference!

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BM-6

THIS IS NO. 93 OF A SERIES ON

# GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

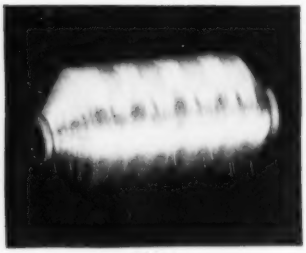

*Fig. 1*

## WINDING BRAIDER PACKAGES OF GLASS YARN on the No. 50 Leesona® Winding Machine

More and more mills are winding Single or Multiple End Braider Packages of glass yarn with equally receding tapers at both ends (Fig. 1) on the No. 50 Leesona Winding Machine with the Taper-End Tube Attachment.

You can readily understand why. They know that Taper-End Packages of glass yarn overcome an end breakage condition at the braider which commonly occurs when straight-end packages are used.

That condition is caused by the slippery nature of glass fibres. Outer coils of glass yarn slide down off the lower end of the Braider Supply Packages whenever the Braider is stopped. When the Braider starts up again, the sharp corner on a straight-end package catches the yarn as it tries to get back onto the package and sometimes breaks it.

With a taper-end package, however, the yarn is easily pulled over the receding taper and back onto the surface of the package.

Let's take a close look at the Taper-End Tube Attachment (Fig. 2). It consists principally of Taper Bar (A) and Builder Cam (B) which determine the angle of taper and permit a variety of angles.

*Here's how it works.* You control the operation of the Taper Bar by setting the Builder Cam to indices in the Builder Cam Bracket (C). You'll notice that this Bracket has graduations from 0 to 4. These graduations help you determine any particular setting and record it for future use.

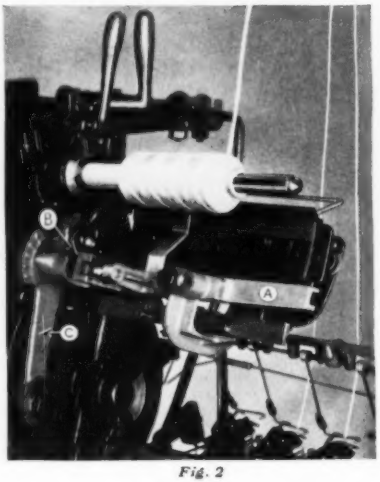


*Fig. 2*

*You use your judgment* to determine the right setting for any desired taper. In other words, you arbitrarily set the Builder Cam, Builder Cam Bracket and Traverse Frame Stop. With the indicator on the Builder Cam set at "0", the attachment winds packages with little or no taper on the ends. You increase the angle of taper by moving the indicator toward "4".

In this way you get equal tapers at both ends of the tube in the angle of taper you want anywhere between 12° and 63° from vertical. Of course, these angles are dependent upon the amount of yarn required on the tube to make a symmetrical package. The bigger the finished diameter, the slighter the taper from the vertical.

You can get starting traverses up to 6" with the Taper-End Tubing Attachment. You adjust your traverse length with the Builder Cam Bracket (C). It has elongated slots which let you raise the bracket to lengthen the traverse and lower the bracket to shorten the traverse.

*To obtain equal tapers at both ends* of the package you, naturally, have to start with the traverse of the thread guide centralized.

It's easy to centralize the traverse guide. We'll be glad to tell you about it — on request.

23.1.6

June, 1952

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

# UNIVERSAL ® WINDING COMPANY

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# LETTERS FROM OUR READERS

Address all communications to:
Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 36, N. Y.

## Round Table

**"INEQUITY"—**
**(Continued from May issue)**

Dear Editor:

Referring specifically to the situations in Mississippi and Tennessee, I can state these cases are not directly comparable. The Mississippi B.A.W.I. Law provides that bonds issued by the district are general-obligation bonds which pledge the full faith and credit of the issuing area to guarantee through taxes, if necessary, the servicing of the bonds.

Under the Mississippi law, however, very definite restrictions are placed on the amount of bonds a district can issue, which must bear a relationship to the assessed value of the property in the district. However, under the Mississippi plan, areas that provide such financing do so on a very selective basis. Industrial prospects wishing to utilize the plan must show evidence of financial soundness, good operational and managerial experience that will indicate a bona fide interest, and ability to successfully operate the plant they are interested in starting.

It would mean that only in a case of definite and complete default would any tax liability be involved, which is practically eliminated by the highly selective method employed by the district. Such bonds naturally obtain a very low interest rate as they are tax exempt.

The Tennessee situation, I understand, is that the bonds issued by a district are revenue bonds and do not pledge the faith and credit of the issuing community. They are secured by the investment itself; and should there be a default, the risk is assumed by the bond purchasers, who would have to recoup their investment from the industrial-plant property for which they were issued.

Such bonds naturally carry higher interest rates even though they are tax exempt also. Under the Tennessee plan there are no restrictions, and a district may issue as many bonds as it can sell.

It might be remarked in this connection that the industrial financing referred to is made on merit alone and not through political influence or favoritism.

JOHN A. MCPHERSON, SR.
Greenville, S. C.

## MORE DUCK WEAVING

Dear Editor:

The following is a copy of my reply to Mr. Ivar Moberg:

Dear Mr. Moberg:

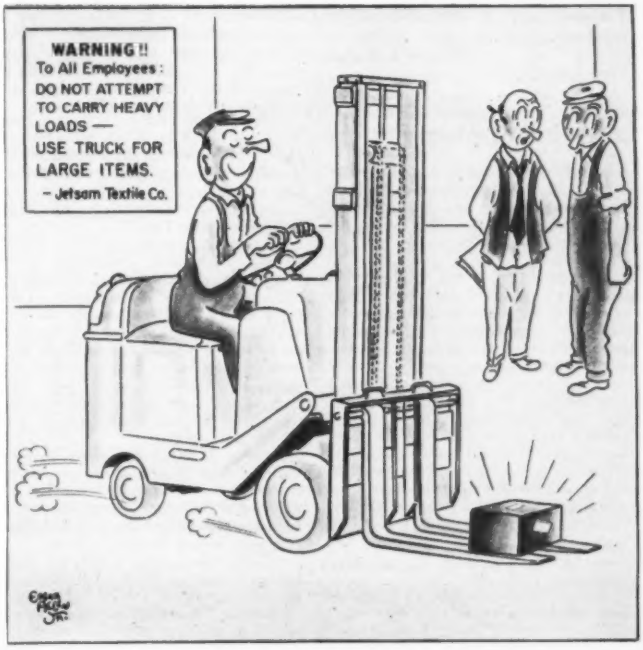
Thank you very much for your recent letter, published on page 191 of the May issue, and the constructive criticism. Now, I would probably lose an argument with such an eminent authority as yourself on any phase of weaving, so I will just state in the beginning that I am not a duck weaver. Nor, in the true sense of the word, was the article in question a technical treatise on duck weaving. It was written in response to requests for information about types of looms, at that time idled by the slump in civilian production, that could be converted to the weaving of light duck for the military market.

I personally checked each key point of the article with two men who have had considerable practical experience in the weaving of duck. They are: Mr. Noah Rider, in charge of loom-fixer training at the Trion Division Mill of Riegel Textile Corp. here at Trion and Mr. Hollis Rutledge, assistant overseer of weaving at the Appleton Co. mill of J. P. Stevens Co., Anderson, S. C. They both emphasized the fact that a straight warp line is to be desired.

As you know, so many variables enter into the art of weaving that no hard and fast rules can be laid down for any particular mill, loom, or weave. Even the loom manufacturers, when issuing setting instructions for their machine, stress the fact that variations must often be made to suit local conditions.

Now, if I were going to weave duck, I would start with a straight warp line; and, if it became necessary to run a slightly slack top shed, I would not hesitate to raise the warp line to achieve the desired results. I would not run as high warp line

## TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*




"Ever get the feeling Snoodle's a little lazy at times?"

as possible, as you say you would, on any plain weave, but would only set it as high as was dictated by local conditions.

I feel sure that no practical weave room man will take anything you and I may write as the final authority or as the complete answer to his own particular problems. Like the loom-setting instructions, such information must be taken only as a starting point, and any loom fixer worth his salt can then make whatever changes are needed to get the desired results.

W. C. WESTBROOK

Trion, Ga.

## GWALTNEY WAS RIGHT

Dear Editor:

It was interesting to note that Saco-Lowell has put the yarn supply packages on the Gwaltney Spinning Frame where they ought to be.

In 1910, on the third try, I obtained permission to try to condition the worsted on our full-fashioned knitting machines. The cones were suspended to keep them cleaner from lint, lessen surface tension at the cones, and lead through porcelain eyelets over the nickel plated conditioning rolls. The zinc-covered boards holding the eyelets were provided with individual lifting and holding wires, and the boards for the heeling ends were raised by the lock on the heeling carrier.

This change allowed us to do away with the expensive conditioning on bobbin winders, storage in the moisture cupboard, and loss from mildew.

We equipped all of our David Richter frames and the two Leiberknecht ribbers. The system was used until the last of the frames was discarded in 1932.

WALTER A. SIMOND

Essex Junction, Vt.

## HIGH COST OF DYING

*[The following quotation from a letter by Mr. W. L. McKnight, board chairman of Minnesota Mining and Manufacturing Co., is self-explanatory.—How do you feel about these taxes?—*EDITOR]

Dear Editor:

I am arranging to sell to the public through a group of underwriters a block of stock in our company representing less than 20% of my family holdings, and I particularly want you to know that this sale is made with deep regret.

I shall have been with the company forty-five years the 13th of this coming May, and during those years, I acquired through the purchase of its stock a very large interest in the company. On the 11th of November, I shall reach the age of 65.

I am advised that upon my death a very substantial amount of my stock would have to be sold by the executors of my estate through a public offering within one year from the date of my death in order to pay these taxes.

Because of our confiscatory federal estate and state inheritance tax laws, which will exceed 70% of my entire estate under existing tax laws, every man with substantial means should, under similar circumstances, give serious consideration to what will happen to his estate upon death.

W. L. MCKNIGHT

St. Paul, Minn.

Dear Editor:

Here are some tax resolutions suggested for businessmen:

"I shall consider the tax consequences of every decision—in routine day-to-day operations as well as special transactions. When in doubt I shall call my professional tax adviser—fast.

"I shall remember that tax planning and tax strategy are now more important than ever. At the '52 rates, I can't afford to slip into any tax pitfalls or overlook any opportunities for tax saving.

"I shall keep complete records to support all deductions." (This final resolution is especially important for taxpayers making $25,000 or more since such returns are now automatically scheduled for auditing).

RESEARCH INSTITUTE OF AMERICA, INC.

New York

## STOPPING CLOTHING FIRES

Dear Editor:

The combustibility of any material depends on the type of fiber used and the weave of the fabric. Cotton, for example, is one of the most combustible clothing materials—especially the fuzzy-textured flannellette frequently used in pajamas. Wool, on the other hand, is not usually combustible unless spun very fine as in light worsteds. In general, fabric that is tightly twisted and closely woven is less likely to catch fire.

Manufacturers and processors of fabrics are not always to blame for the frequent clothing fires that occur. Many people apparently mistake "flame-proof" or "flame-resistant" for "non-combustible" when they think of treated fabrics.

Flame-resistant fabrics will not burn when put over a flame, but will scorch or char when exposed to extreme heat. Treating fabric for flame-resistance does not turn it into a piece of asbestos; it merely prevents it from bursting into flame and causing a fire hazard.

One of the thorniest problems is preventing fire-resistant compounds from being removed from clothing by perspiration, rain, and especially laundering. During World War II, for example, the best of the treatments permitted an Army shirt to withstand about six washings with ordinary soap before flame-resistance was destroyed. Actually, a survey made at the time showed that the average combat-infantry shirt got only three washings during its entire lifetime.

Another of our Army-research findings was that shirts protected with the better treatments would withstand between 10 and 12 launderings without serious loss of flame-resistant properties — if washed in detergents instead of soap.

Chemical researchers have tried every approach they can think of to eliminate the fire danger in fabrics. The older "blanketing" methods, in which chlorinated wax, antimony oxide, sodium silicate, or ammonium chloride were used to coat theater draperies and stage scenery, are now considered outmoded. Instead, the flame-retardant is designed to act as a catalyst that breaks down the products of combustion into nonburning carbon and water.

With cellulose materials, the flame-retarding compound serves to prevent formation of tarry by-products. Though cellulose itself is not very inflammable, upon decomposition it forms a highly inflammable tar, much like turpentine.

Newest venture in this field is a promising resin-impregnation process. Previous attempts to bond resins right into fabrics have failed because the resins themselves were inflammable or left the fabric stiff and boardy. This new resin process, discovered by a former Austrian chemist, has now been perfected and provides excellent, durable fire-resistance as well as flexibility suitable for clothing.

The ideal flame-resistant treatment is one that stays with the fabric for its lifetime—like the dye that gives the fabric its color. It should stand up through constant use and laundering without altering either the appearance or hand of the fabric.

DR. JAMES M. CHURCH

Columbia's School of Engineering

New York

## COMPRESSED AIR—GOOD?

Dear Editor:

A short while ago we decided to use compressed air for cleaning our machines in the drawing, spinning, and twisting departments. It seemed to be the answer to the laborious and tedious method of cleaning with brushes and cloths.

We soon found that compressed-air cleaning was a great time saver and ideally suitable for cleaning the more inaccessable parts of the machines. Cleaning time was reduced by 80%, machines were doffed quicker, and changeovers were accomplished in the minimum time. So we were inclined to be overenthusiastic and used the air hoses wherever and whenever we could, until we ran into trouble: FLY WASTE!

Our burling and mending costs began to increase, and some pieces had to be reburled, all because of fly waste. We decided there and then that compressed air had its limitations and that we would have to lay down rigid rules for its use.

Our rules were simple and clear. Air hoses were not to be used on a machine while it was in motion, and under no circumstances should they be used for cleaning floors. Air hoses should only be used when machines are standing, that is at doff, or when changing lots. At all times the operative must exercise care and caution when using the air hose.

The rules were displayed in prominent positions around the plant, and the operatives were told to beware of fly waste. Fly waste causes poor yarn, poor cloth, poor business, poor wages—poor you.

To conclude, let us say that compressed air can be either a time saver or a time waster; a money saver, or a drain; the boon, or the bane of your life—it all depends on how you handle it.

DENNIS LONG

Spinners Ltd.
Huntingdon, P. Q.

Exploring

# The Textile Community

## Kendall Mills Communities Stress ROUND-THE-CLOCK SAFETY

**► Reducing on-the-job accidents is only the first step in a community-wide safety program—accidents off the job can mean lost time and financial hardship, too. Here are some tips your home town could use to make people safety-conscious at home, at work, and at play.**

**By MILDRED BARNWELL ANDREWS**

MILDRED ANDREWS

SAFETY is being dramatized in a round-the-clock program that is making textile communities of the Kendall Mills group better and happier places in which to live. The program, the first of such scope and magnitude in the textile industry, is already showing results.

The program was initiated at each Kendall-mill community, Paw Creek, N. C., Camden, Edgefield, Pelzer, and Newberry, S. C., simultaneously. Each mill's Employees' Safety Council cooperated with the management of the plan to help plan the program that points up hazards people are generally inclined to overlook. Through accident-prevention study, use of proper guards on mechanical equipment, and other methods, the mills of the group made real progress last year in reducing the number of on-the-job accidents. With similar planning on a broader scale, home and community accidents are expected to be sharply curtailed.

**Such a program** for each community, big and little, throughout the textile area would not be difficult to set up. A small program is better than no program, and a comprehensive one could grow from it. Here's how it could be done in your home town, too.

A system of community meetings could be established, and once-a-week talks on accident prevention in the home and in the town could stress ways and means of safety. Dramatic skits and motion pictures, radio and television programs are helpful in stressing lessons grim in themselves but often caused from simple carelessness.

Such homely subjects as high heels and low heels, with pantomime illustration of loss of balance, disastrous falls, and lengthy recuperation, will make everyone stop and think next time a pair of shoes is purchased. One of the nation's leading safety engineers stresses that high heels are the cause of many falling accidents.

"It is easier to slip," he said, "because the high heel throws one off balance. They are forever getting caught on steps and pitching the wearer headlong into trouble. Industry is dead set against anything except a moderate heel at work." He adds that a safety shoe has a steel plate in the toe so if something is accidently dropped on the foot it won't break the toes.

"They are quite goodlooking, and flexible," he said, "and have proved so popular that many housewives are wearing them at home. One never can tell when the heavy electric iron may fall from the ironing board ker-plonk on mama's foot."

Discussion of house-planning, showing the flow of traffic through the home and easy ways to prevent falls, collisions, burns, and other tragedies through systematic planning and better housekeeping, will point up preventable accidents. Too often one reads in the news of drownings in the bathtub, burns from kitchen stoves or smoking in bed, or electric shock from short-circuited equipment. Such accidents can be eliminated through care and planning.

**In 1951** the millionth death on the highway through automobile accident was chalked up. The terrible road tragedies caused by lack of judgment of the driver or faulty equipment of the car are just as hazardous to the mill worker off the job as any dangerous working condition on the job. An automobile accident too often takes a double toll, for such a tragedy in a family, with its immediate shock and worry and its aftermath of long illness, is a great hardship; and the avalanche of bills to be met can create havoc with the productive capacity of the breadwinner, sometimes to the extent of loss of his job.

**With the coming of summertime,** hazards of recreation on the water should be discussed, and preventive measures for greater safety at play should be emphasized. The accident rate of pleasure boating has become so great that future government regulation of boating is expected to be more drastic. But don't wait for legislation to save the life of some one you love—point out that motors should be checked and life savers included with other boating equipment. Courses on artificial respiration should be a required community project every summer.

"Those are the things we want our people to be reminded of," said the director of personnel at Kendall Mills, who inaugurated their home-and-work community-safety programs.

You, too, can urge your community to plan to prevent accidents, at home, at work, at play, "around the clock every day."

# Kinks AND SHORT-CUTS

## We Use a Stand To Hold Lease Sticks

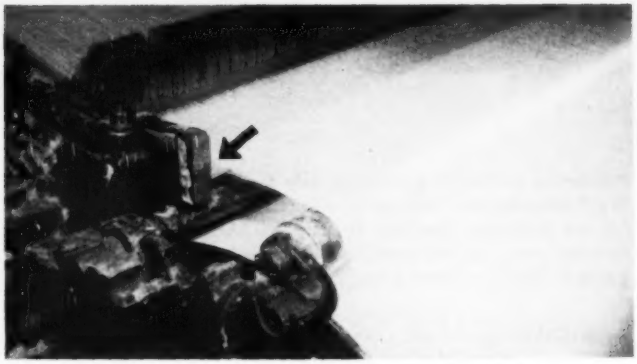
We use a lease stick behind the drop wires to divide the warp on all of our Draper looms that weave spun rayons.

Our old method of fastening the sticks was to cut pieces of harness-leader wire and fasten the wire around the stop-motion stand. We always needed a pair of pliers when we loosened the lease stick. No two leader wires were ever alike, either, and they looked bad. In addition, once one of our weavers scratched his hand on the end of a wire.

We now have regular stands and special lease sticks on all of our looms.

The stands are made from 1 x ⅛-in. iron and are all bent in the same shape. A hole is bored in one end, and the stand is held to the stop-motion stand by a setscrew and jamb nut.

The lease rods are ¾ x 1¼-in. hardwood and are notched at each end to fit the strap-iron stands.



**LEASE-STICK STAND is fastened to the stop-motion stand. The strap iron used is 1x⅛ in., and the new lease sticks are ¾x1¼ in. The new arrangement is lots neater.**

When a lease stick has to be removed, it is raised about 1 in. on each end and lifted out of the stand.

The backs of our warps are now very neat, and we have fewer accidents.

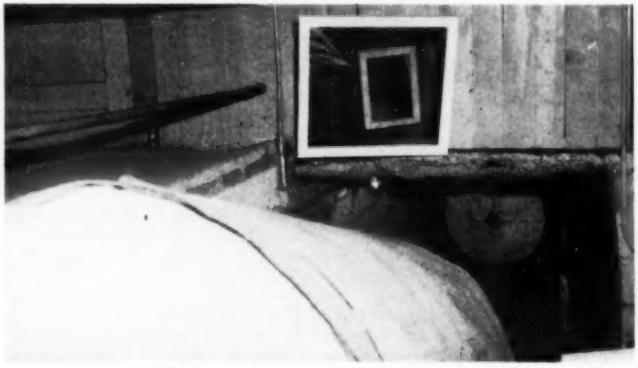
## Mirrors Help Scales Man See Rolls in Tunnel

This mirror-in-a-mirror arrangement was devised so that our scales man could see in the tunnel conveyor shown here.

The conveyor comes underground from a weave room in another building and delivers rolls of cloth to our warehouse and shipping room. The roll in the foreground is about to be delivered to the scales, where it will be weighed and removed by a hoist to be taken to storage.

After the conveyor was installed, we found that occasionally two or more rolls placed too close together on the conveyor would get snarled up with each other during the passage through the tunnel. When that happened, the scales man had to stop the conveyor, walk down in the tunnel, and straighten out the rolls.

The trouble was that the scales man couldn't see into the tunnel from his station at the scales. So we placed these two mirrors to make it possible for him to see well into the end of the tunnel. From the scales he can glance at the mirror on the wall and see what is reflected in the small mirror placed on the right-hand side of the conveyor track. (The top of the second mirror is barely visible in the extreme lower right hand corner of the picture. It can be seen fully reflected in the large mirror.)



**THIS MIRROR-IN-A-MIRROR was rigged up so that our scales man could see into the conveyor tunnel from his post at the scales (located 3 or 4 yd. from the cloth roll in the foreground of the picture). If any rolls have gotten out of position on the conveyor track, he can spot them before they begin the incline to the scales.**

A NEW ALL-PURPOSE

# AlSiMag 192

U. S. PATENT NO. 2,214,703 AND OTHER CLAIMS PENDING

## BUTTON GUIDE for UNIVERSAL NO. 50 WINDERS

### FEATURES:

**Easily threaded • Yarn will not jump out • Low cost**
**EXACT delivery point • Winds large or small packages**
**Tapered or straight packages • Extremely long life**

Here are several views, approximately actual size, of the new All-Purpose Button Guide. These guides may be ordered from Universal Winding Company, Providence 1, R. I. under Universal No. 73-167-49 for immediate shipment.

The same guides may be ordered from American Lava Corporation, Chattanooga 5, Tennessee under AlSiMag No. GS-25534 for shipment after normal production intervals.

AlSiMag 192 guides of somewhat similar design have been run by many mills continuously for more than five years with no sign of wear.

These guides are now lower in price because of new production methods resulting from large volume selling. These AlSiMag guides are far lower in cost per pound of yarn processed.

**TEST SAMPLES FREE ON REQUEST**

Let your own experience tell the story.

**50TH YEAR** OF CERAMIC LEADERSHIP

## AMERICAN LAVA CORPORATION

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SOUTHWEST: John A. Green Co., 6815 Oriole Drive, Dallas 9, Dixon 9918 • NEW ENGLAND, 1374 Massachusetts Ave., Cambridge, Mass., Kirkland 7-4498
LOS ANGELES, 5603 North Huntington Drive, Capitol 0901 • CHICAGO, 228 North LaSalle St., Central 6-1721 • ST. LOUIS, 1123 Washington Ave., Garfield 4959

## Top Man in the Mill Encourages "Helping Yourself"

**BOOKS BORROWED from the superintendent's library are listed on this Borrowed and Returned record by the superintendent's secretary. Books on a variety of subjects are available, and supervisors are encouraged to use them.**

The library of the superintendent of a big cotton mill is available to the supervisory staff of the mill. The board shown here is the Out and In record kept on the books borrowed.

When a book is borrowed, the superintendent's secretary enters the borrower's name, the title and author of the book, and the date. In the last column to the right, the date the book is returned is entered. The board is hung on the end of the bookshelves in the superintendent's mill office.

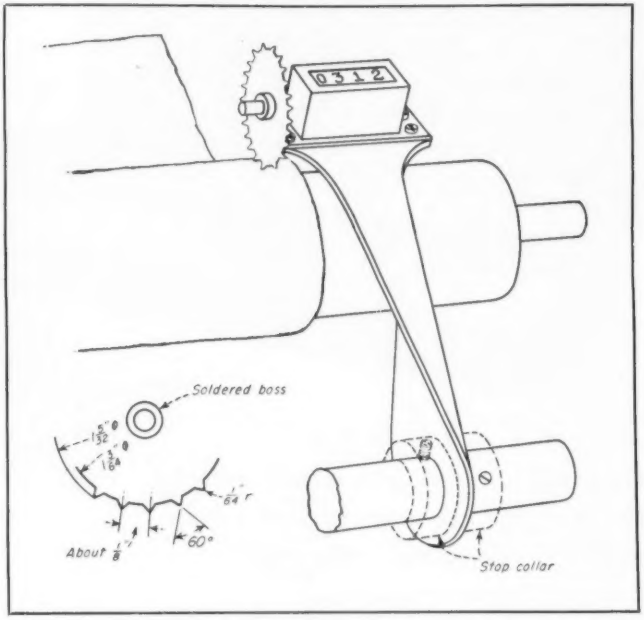
Books are available on a variety of subjects—fibers, manufacturing processes, equipment, mathematics, human relations, business principles, industrial psychology, etc. Supervisors are encouraged to borrow books and to develop the habit of seeking information.

## Selvage Ends on Dyed Beams Are No Slashing Problem Now

In making section beams for dyeing, we found that several ends on each side were not touched by the tension roll. These ends had a tendency to build up and twist, especially when dye liquor was forced through the beam. Slashing those beams was a job.

Now we just increase the tension on those selvage ends by hanging a large nut on the tensioning device in beaming. The results are very satisfactory: no more build-ups along the side, no blow-outs in dyeing, and beams are easier to slash. **Willie Boswell, Burlington, N. C.**

## Here's a Meter To Measure Tricot Fabrics on the Machine




**YARDAGE METER IS SCREWED TO A STAND that is pivoted on a stationary shaft. The teeth of the brass plate fastened to the yardage meter rest on the knitted fabric and record the yards as the take-up roller turns. Two movable collars on the stationary shaft position the plate to the fabric.**

We needed to know how much cloth we had run on our tricot machines so that we could doff the fabric at uniform lengths. I made a simple apparatus from a yardage meter to accurately measure the fabric as it is knitted.

From a $\frac{1}{16}$-in. piece of brass, I cut a circular plate of $1\frac{5}{16}$-in. diameter. The plate has $\frac{3}{64}$-in. teeth cut around the circumference on $\frac{1}{4}$-in. centers. A bushing is soldered to the plate to give bearing surface at the meter shaft.

A stand is mounted on a stationary shaft that serves as a pivot for the stand. The meter is fastened to the top of the stand, and the brass plate rests on the fabric as the fabric goes around the take-up roller. Two stop collars on the stationary shaft hold the stand in the correct position for the brass plate to rest on the moving fabric.

The weight of the assembly holds the brass plate on the fabric, and the yardage is recorded on the meter. Ten revolutions of the brass plate indicate 1 yd. of fabric.

Since the stand is pivoted on the stationary shaft, the assembly may be tilted downward 180°.

This device is also suitable for measuring cloth on a loom. **Minoru Uno, Japan.**

### *Best-Kink Award for April*

*Each month TEXTILE WORLD awards $25 to the submitter of the kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.*

*If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.*

*The best kink for April, according to TEXTILE WORLD reader-judges, was:*

***"On Draper Looms—We Replace Friction Collars the Easy Way"***

**Lloyd Senft, Allentown, Pa.**

*Mr. Senft is being sent a check for $25 with the compliments of TEXTILE WORLD.*

## *Your business is off—that's why I want to talk to you*

I'm Clarence Moss.

I represent the Textile Division of Synthane (Laminated Plastics).

I work out of Elizabethton, Tennessee. But right now I'm speaking for all Synthane representatives.

We realize your business is slow. That's why we're picking *this* time to talk to you. When you're busy, you haven't time to spare, but now, during the lull, maybe we can get together more conveniently.

We'd like to tell you about what's current or new in bobbins or pirns, hosiery turning and examining forms, headless package tubes, redraw tubes, redraw caps, rollers and so forth. You'll probably want to know about a new collapsible bobbin for the pre-shrinking of nylon yarn. We've just been granted a patent on it.

We'd like to drop in on you soon with a boxful of samples for you to look over. We think you may want to investigate, and try out, Synthane now . . . before business picks up again.

Just let our people at Oaks, Pennsylvania know you're ready to see us . . . and thanks for listening to me.

*Textile Division*

**SYNTHANE**

**SYNTHANE CORPORATION**

Oaks, Pennsylvania

## *Kinks* AND SHORT-CUTS

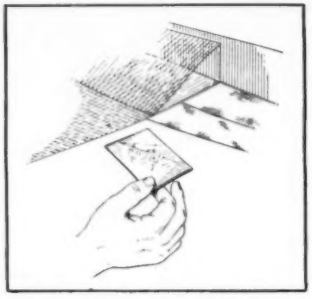
### Magnet Cuts Fire Hazard In Garnetting Cotton Waste

The United Waste Co., Inc., East Dedham, Mass., recently installed non-electric, spiked-apron magnets on their garnett machines to prevent stray iron or steel from striking machinery and causing sparks.

"Since installing the Eriez spiked-apron magnet, we have been amazed at the protection afforded. Fires due to sparks from tramp iron have been virtually eliminated," said E. I. Seigel, Supt. Cleaning is done by lifting the magnet and wiping off accumulated tramp iron.

FEWER GARNETT FIRES have occurred at this mill since permanent magnets were installed.

### Use a Mirror When You Weave Face Down



YOU DON'T HAVE TO STRETCH fabric and turn it over to observe the weave when you're weaving with the face down. Use a small mirror and you'll be O.K. as soon as you get used to seeing it backwards.

### Cut the Eye To Save the Shuttle

A shuttle that hits the top of the shuttle boxes tears the leather and damages the wooden part of the shuttle. When we have a rough shuttle, we sand it down smooth.

A lot of our shuttles were cut so low that the eye stuck up above the wood and cut out warp ends.

We now grind the shuttle eye at the front until the front is flush with the wood. To grind the eye, we remove it from the shuttle and grind the front on an emery wheel. Then we polish the eye on a sanding machine or with emery cloth, and dress the eye with crocus cloth.

Brass eyes give the best results, but we also cut other eyes the same way.

Precautions must be taken to prevent rough edges at the eye and on the wood, or warp ends will be damaged.

Our shuttle life has been increased since we started fitting the eyes to the worn shuttles. **Bernard Dixon, Danville, Va.**

## $500 for Best Kink in 1952
## $25 for Best Kink Each Month

### In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short-cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $500 check for the best kink of the year or the $25 check for the best kink of the month; maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

**RULES OF CONTEST**

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1952.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do.)
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to:

KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

# MAKES FINISHES MORE DURABLE...

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RHONITE R-1
Stable to storage—no refrigeration needed.
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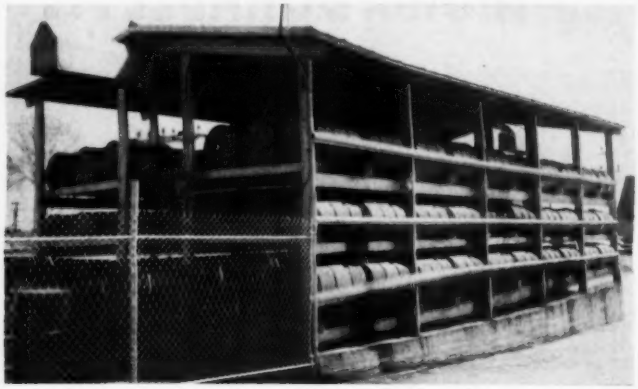
## *Kinks* AND SHORT-CUTS

### Firestone Stores Oil Drums With a Hoist and Rail



180 OIL DRUMS can be stored in this open storehouse at Firestone Textiles, Gastonia, N. C. Empties are placed end up in the wire enclosure to the left. Full drums are handled with an overhead hoist and rail under the roof.

The storehouse for oil drums shown here is used by Firestone Textiles, Gastonia, N. C.

As can be seen in the picture, there are three tiers on each side where drums can be placed three deep. The ends of the drums rest on angle-iron crosspieces supported by lengthwise steel beams. Rails made of pipes welded to the upright beams that support the roof keep the drums from rolling off at the side.

The angle-iron drum-end rests are slightly inclined from the outside toward the inside so that the drums will not roll off toward the inside.

The tiers are built in 10 sections, providing space for 30 drums on each tier. The six tiers thus provide storage space for 180 drums.

Down the center of the storehouse is a walkway for taking the drums in and out of storage. An electric hoist mounted on an overhead rail is used for handling the drums.

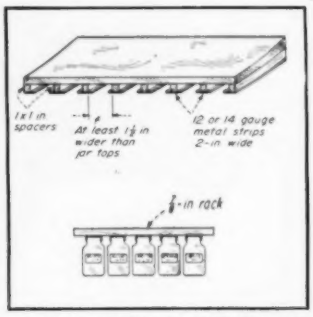
At one end of the storehouse is a cyclone-wire-fence enclosure the same width of the storehouse, where empty drums are stored end up on the ground.

Firestone finds several advantages from this arrangement:

1. Handling is much easier.
2. Drum storage is now a neat spot of the mill yard instead of the eye-sore it used to be.
3. The tiers provide an easy way to keep different lubricants separated from each other.
4. The roof gives some weather protection to the drums and the man handling them.

### Small Parts Cabinet From Non-Essential Materials

CONTAINERS KEEP OUT DIRT but still let you see what's in them. It's better to put a couple of prongs on the cabinet door to hang racks on while you unscrew a jar to get something out.




AFTER YOU'VE BUILT THE SHELVES, you fix up runners on the bottom side of each shelf. Then you make racks to slide in the runners and fasten the jars to the racks.

While awaiting delivery of a steel parts cabinet, we devised a home-made parts cabinet that works very well. The advantages of the cabinet are: 1. We've got containers that are dust-proof and lint-tight. 2. There are no corners from which we have to fish out tiny parts. 3. The cabinet is easily kept clean. 4. Readily obtainable materials are used, the cabinet can be built to fit any desired dimensions, and old cabinets can be remodeled.

First we built a wooden cabinet about 5½ ft. high, 3 ft. wide, and 18 in. deep. Then we fastened some metal strips to the underside of each shelf, as shown in the sketch, to act as grooves for sliding racks.

A local jobber furnished us with some glass jars with screw-type caps. The tops of these jars were fastened to the sliding racks with a couple of wood screws. Then we screwed the jars to the covers and put labels on the jars while they were in place. Doing the pasting this way assured us that the labels will always be on the same side of the rack when jars are replaced. A master label is put on the front of the first jar so that we can tell at a glance what parts are in that line of jars.

We also found it convenient to have two ¼-in. iron rods fastened to the inside of the cabinet door and projecting about 3 in. inwards at such a height that the rods stick into the cabinet between shelves of jars. These rods are spaced far enough apart to support a rack of jars while the parts needed are taken out.

The only disadvantage we've found with the cabinet is that the jars, since they're glass, do break once in a while. But reasonable care keeps breakage to a minimum. **William C. Gibson, Jr., Decatur, Ga.**

# NAPHTHOLS

***Ingredients of a quality product***

Merchandisers and buyers look beyond the house label for the reasons behind quality. They look for fine fabrics, top notch styling, expert needlecraft and colors that are fast and brilliant.

*NAPHTHOLS* by Pfister are an important part of this quality team. Consistently uniform, Pfister Naphthols assure superior fastness of color that does not fade under repeated laundering.

*Whether you use Naphthol Solutions or Naphthol Powders insist on the best . . . insist on Pfister Naphthols.*

**Pfister Chemical Works** INC.

RIDGEFIELD NEW JERSEY

SOUTHERN REPRESENTATIVE DYER S. MOSS CO. CHARLOTTE, N. C.

## Make Big Shafts Bigger Without Using A Lathe

It often happens in maintenance work that a press- or force-fit between a shaft and its mating part is destroyed owing to frequent driving off of the pressed-on part. Ball races, which are supposed to be a driving fit on the shaft, often do not fit with sufficient tightness when they are renewed frequently. Driving on and off of press-fitted parts has the effect of reducing the shaft diameter very slightly, but this reduction is often sufficient in extent to convert a driving fit into a running fit.

One way to increase the effective diameter of a shaft is to knurl it in a lathe so that the teeth of the knurling wheels press up the surface of the metal and raise a lot of small ridges above the original periphery of the shaft. But sometimes heavy and long shafts cannot be mounted in a lathe. It is therefore advisable to use some form of portable tool that can be taken to the job.

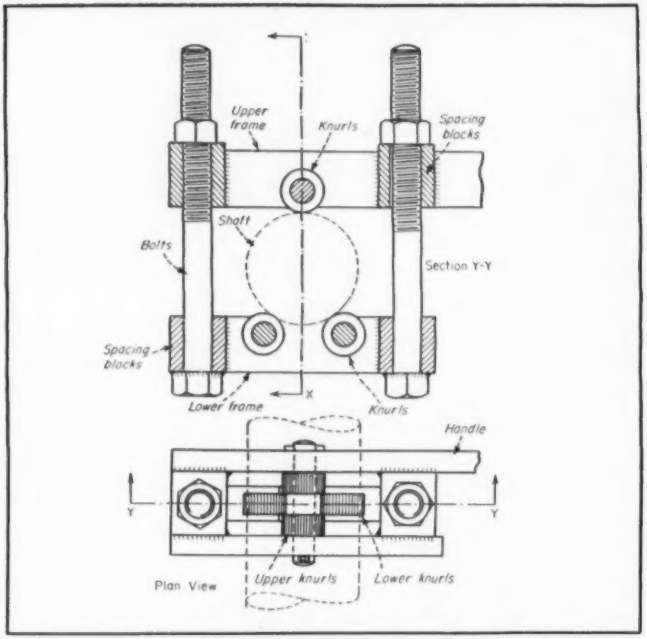
In our maintenance shop we have made up a portable tool that we can take to a shaft and, with it, increase the effective shaft diameter. It has proved very useful for a lot of jobs, particularly in fitting replacement parts that have been bored oversize. We have also used the tool on standard cold-rolled steel shafts that are required to have a driving fit at some portion of their length.

The tool consists of an upper and lower frame of welded flat-steel bars. The upper frame carries a pair of freely revolving knurling wheels that are carried on a drill-rod spindle. There is a spacing collar between the wheels. The lower frame also carries a pair of similar knurling wheels, each carried on its own spindle.

The upper and lower frames can be adjusted toward or away from each other to admit small or large shafts between the knurling wheels, and the frames are connected with a pair of standard bolts. The bolt heads are welded to the spacing blocks of the lower frame. The spacing blocks of the upper frame are drilled to a free fit for the upper ends of the bolts, which are fiitted with nuts.

The tool is placed over the shaft whose diameter is to be increased, and the nuts are tightened down so that the knurling-wheel pattern is impressed into the shaft surface when the tool is revolved. For revolving purposes, one side of the frames is extended in length to form a convenient handle. One or two complete revolutions are sufficient to raise the shaft diameter by about 0.001 in. The diameter can be further increased by successive tightening of the nuts so that the knurling-wheel teeth are pressed further into the shaft surface. It is advisable to make constant checks of the shaft diameter during the knurling process. The length of the knurled portion on the shaft can be increased by moving the tool to new positions along the shaft.

We made our own knurling wheels from tool steel as it was necessary to bore out the wheels to at least ⅜-in. diameter in order to use a sufficiently strong spindle on which the wheels could revolve. Straight teeth are cut in the wheel peripheries and are of coarse pitch. Diamond-pattern knurling wheels can be used, but we find that straight teeth are superior for increasing shaft diameters. The wheels used are ¾ in. in diameter and ⅜ in. wide. The tool illustrated will fit on shafts with diameter from ¾ and 3½ in. **Clifford T. Bower, London, England.**




**EACH REVOLUTION OF THIS KNURLING DEVICE increases shaft diameter by about 0.001 in. The device is particularly useful for large shafts that would be inconvenient to bring to a lathe. The knurling increases shaft diameter to make better force fits.**

## Sharkskin Raceplate Covers Last Four Times As Long

Felt raceplate covers don't last long on S-6 looms. Sometimes they wear out when a small roll of cloth is on the loom, and seconds are made because it is hard to cover a raceplate when a warp is on the loom.

We've started using sharkskin raceplate covers in place of felt covers. Sharkskin covers last four times as long as felt covers.

We used to pay $0.19 per ft. for felt covers 2-in. wide. We now pay $0.25 per ft. for sharkskin covers the same width.

Since the sharkskin covers wear longer, we figure that we are paying only $0.06 per ft. for sharkskin as compared with $0.19 per ft. for felt.

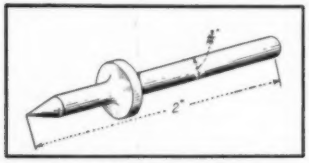
When the warps are out on our looms, we brush the sharkskin covers with a fine steel brush to renew the nap.

Besides the cost savings, we reduce the loomfixers' time in re-covering raceplates by 75%. **Charles R. Batzer, Lancaster, Pa.**

Editor's note: Sharkskin leathers have been used to a small extent for binder leathers and loop pickers, but this is probably the first time they have been used as raceplate covers.

The better the valve, the less it will require maintenance
With Powell, it's not "how many" but "how good." Powell Valves are so good that they operate most efficiently, last much longer, and require far less maintenance. In short, Powell can give you flow control at its best.
There's a greater variety of Powell valves in use today than of any other individual make.
The Wm. Powell Company
Cincinnati 22, Ohio
Fig. 375—200-pound Bronze Gate Valve with renewable, wear-resisting "Powellium" nickel-bronze disc.
POWELL
BRONZE, IRON, STEEL AND CORROSION-RESISTING VALVES
DEPENDABLE VALVES
SINCE 1846

## We Use a Gauge To Align Shuttle-Bobbin Holders




**THE BOBBIN-ALIGNMENT GAUGE is small enough to be carried in a loomfixer's pocket. If it is used often enough, broken picks on the transfer can be reduced 10%.**

We've always had too much broken filling on the transfer on our bobbin-changing looms.

We found that many of the filling breaks came from bobbins that were out of alignment with the tension pads in the shuttle eye.

When we aligned the bobbin holder the old way, we used a depth gauge to align the bobbin tip vertically and had to guess at the horizontal alignment.

We made a gauge that makes it possible to positively align the bobbin to the tension pads in the shuttle eye. The gauge is made from a $\frac{3}{16}$-in. rod that is 2-in. long; one end is ground to a point. A small, tight-fitting washer is pressed on the rod $1\frac{1}{4}$-in. from the flat end and soldered to the rod at the pointed side.

The gauge is stuck into an empty bobbin, and the bobbin is placed in the shuttle. If the bobbin holder is aligned correctly, the gauge point will center the tension pads $\frac{3}{16}$-in. above the vertical center line of the shuttle.

Our loomfixers and supervisors carry one of the gauges in their pockets. The over-all size is little larger than the Allen wrench used to set the tension on the eye pads. Each time a loomfixer checks a new warp or starts up a loom that has broken the folling, he uses the gauge to check the bobbin setting.

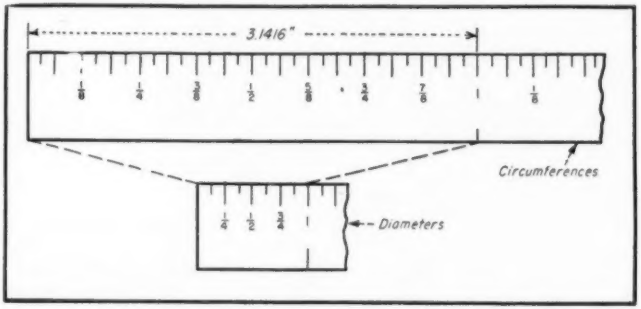
Since we have been using the gauge, we have reduced our filling breaks on the transfer by 10%. **Joseph Labonville, Manchester, N. H.**

*Now--*

**$500 for your Kinks**

**Send in YOUR Kink now! There are always two contests going on—the $25 monthly contest and the annual contest, now worth $500 to the winner. See page 178 for rules.**

## Circumference Tape Measures Roll Diameters

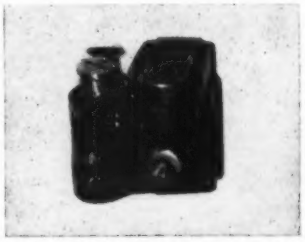



**AFTER YOU MEASURE THE 3⅛ in. on the tape, mark that 1 in. Then fold the tape in half to get the ½-in. division and mark the ½-in. line on succeeding inches along the tape. Do the same thing for ¼- and ⅛-in. divisions.**

A circumference tape has proved very useful in our mill for measuring rolls, bobbins, and full packages from roving frames, spinning frames, spoolers, and winders. For many purposes it is easier and quicker than calipers or open-gap gauges. All you have to do is slip the tape around any round object and the diameter (not the circumference) can be read directly on the tape. A narrow strip of thin, tough parchment paper or tracing-cloth can be used. This material will be found to be free from stretch and will give long service if it is properly used.

The correct markings for the tape can be obtained by cutting a strip of thin paper ½ in. wide and 3.1416 in. (app. $3\frac{1}{8}$ in.) long. This strip is placed end to end and folded in the center. The line at this center fold gives the ½-in. division on the circumference tape. An additional folding will give the ¼-in. divisions, and a third folding gives the ⅛-in. divisions. The number of 1-in. divisions required can be marked off along the tape.

## We Use a Spring To Stop Irregular Shuttle Checking



**SPRING REPLACES STOP RUBBER on checkstrap fingers, and the result is better shuttle boxing, less replacement of shuttle friction parts, and less attention required by loomfixers.**

The adjustable stop rubbers on the checkstrap fingers used to wear rapidly on our Draper looms, and sometimes they fell out. When the stop rubber breaks, checkstrap does not check closely and uneven shuttle boxing is the result.

We made a cost survey of our supplies for the friction on all the checkstraps and found that we had spent $486.00 for friction supplies in 6 mo. We are now using a spring to replace the stop rubber and have cut our cost considerably.

To use the spring on the friction finger, we had our machine shop turn some studs on a lathe. The studs are ¼ in. longer than the pivot stud at the friction finger and replace the regular stud. The stud head is slotted for turning with a screwdriver.

A $\frac{3}{16}$-in. hole is bored through the head of the stud and through a portion of the friction finger. A reverse-wind torsion spring is used on the battery end of the loom, and a regular-wind torsion spring controls the friction finger on the lever end. The ends of the springs are placed in the holes in the stud head and the friction finger. The springs are made to our specifications by a spring manufacturer.

To set the tension on the friction finger, the setscrew is loosened, and the stud is turned with a screwdriver.

Since we have been using springs, we have reduced our shuttle-friction parts cost, our looms demand less attention by the loomfixer, and our shuttles box more closely.

# IT TAKES THE BEST TO MAKE THE BEST

There just isn't any place to compromise on quality. Consider cotton knitting yarn, for instance. It's a basic fact that it takes the best cotton to make the best cotton knitting yarn. That's why CROSS buys only the best raw cotton . . . Strict Middling. Next, CROSS processes the cotton from spinning to dyeing by proven, best-known methods and under the most perfect conditions to insure uniformity in quality.

*So if you want the best knitting yarn, you cannot buy better than the best . . . CROSS double-carded or combed knitting yarn, bleached or dyed in more than six hundred different shades.*

CROSS COTTON MILLS CO. MARION, N.C. COTTON YARN

## Cross Cotton Mills Company

MARION • NORTH CAROLINA

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**Carl L. Miller & Sons**
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**David F. Swain & Co.**
105 W. Adams St.
Chicago 3, Ill.

**I. I. Davis**
4801 Locust Street
Philadelphia, Pa.

# How do you insure $746,200,000?

The whole textile industry would like to know the answers to that question... because they spent $746,200,000 on textile mill modernization last year!

While we don't have all the answers, here's one good way of insuring that part of the investment that was spent on machinery . . . and a very simple way, too! JUST ADOPT THE COMPLETE LINE OF CITIES SERVICE LUBRICANTS FOR YOUR OPERATION.

Cities Service Lubricants...specifically designed for the textile industry...are top insurance against costly wear and parts failure. With these quality products you're assured of cleaner machine bearings and shafts, and cleaner finished goods, too. With them you can keep friction, due to gumming and power load, down to the barest minimum . . . KEEP PRODUCTION AT MAXIMUM.

Why not use Cities Service as the single dependable source for lubricants exactly suited to your operation? Test them by turning over your most stubborn lubricating problem to a Cities Service Lubrication Engineer. He wants to help you. He can help you. Simply write CITIES SERVICE OIL COMPANY, Dept. F-38, Sixty Wall Tower, New York City 5.

**CITIES SERVICE**

**QUALITY PETROLEUM PRODUCTS**

# Free Technical Information

**Reader Service**

**MILL EXECUTIVES** may obtain free for the asking . . .

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New Textile Equipment
New Dyes & Chemicals
New Useful Accessories
Editorial Articles
*and the Advertisements*

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. . . to send a Kink, a letter for Round Table, or a news note.

. . . to comment on anything appearing in this issue.

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Dear Editor JUNE, 1952

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# *Outstanding* TRADE LITERATURE *Free for the Asking*

**NO REPEATS . . .** Listed here for June are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

## TEXTILE MACHINERY AND AUXILIARY EQUIPMENT

**A new tricot machine**—said to be the most versatile high-speed model on the market—is described in a folder made available by Robert Reiner, Inc. Both 2- and 3-bar machines are shown, and a special section shows in detail some features of the machines. Pictures of existing installations are also shown. (F-1)

**Motors and controls** for the textile industry are described in a catalog published by Westinghouse Electric Corp. You will be particularly interested in the case histories that take you inside several well-known mills. And this catalog also describes some 30 other bulletins that you can send for if you wish. (F-2)

***Polyphase squirrel-cage induction motors*** are the subject of a leaflet issued by Diehl Mfg. Co. The type DI constant-speed unit has a drip-proof construction and is equipped with ball bearings. This type is available in sizes from ¼ hp., 1,200 rpm., to 15 hp., 1,800 rpm. (F-3)

**Totally enclosed, fan-cooled motors** with tube-type, air-to-air heat exchangers in ratings from 40 hp. at 600 rpm. through 400 hp. at 2,600 rpm. are described in a new bulletin made available by Allis-Chalmers Mfg. Co. The motors are available in standard and explosion-proof designs. A good sketch shows how tube-type motors are cooled. (F-4)

**"The most effective method of power transmission** serving industry today," according to a booklet from Reliance Electric & Engineering Co. is their packaged, all-electric, adjustable-speed drive. Briefly discussed are seven basic functions of this method of power transmission, which is available in drives of five types ranging in ratings from ¼ hp. through 200 hp. (F-5)

**Resistance thermometers** that detect temperatures in a very wide range are described in a catalog and buyer's guide published by Leeds & Northrup Co. To aid in the choice of the correct thermometer, the publication features a 5-page tabular guide that indicates not only which unit to use but also how to use it and where to put it. (F-6)

**Tachometers** that feature accuracy of 0.25% are the subject of a technical data sheet issued by Metron Instrument Co. The instruments have ten overlapping or adjoining ranges that are instantly selectable by a rotary switch. Range of the instrument is from 25 to 100,000 rpm. (F-7)

**If you have a laboratory,** you shouldn't be without the *Burrell Assessor* of Scientific Equipment. This booklet, published six times a year, is yours for the asking from Burrell Corp. In the current issue, for instance, some of the items described are a new synchrolectric viscometer, a refractometer, voltbox power supplies, water demineralizers, and automatic pipesetting machines. Just fill out the Reader Service postcard and we'll start it on its way to you. (F-8)

**Another publication for laboratories** has been made available to TW readers by Fisher Scientific Co. The publication contains articles of general scientific interest as well as illustrated descriptions of new laboratory instruments, apparatus, and techniques. The current issue contains an article on a flame attachment for the spectrophotometer, and articles on several other interesting subjects. (F-9)

**A 40-page handbook** has just been published by the Fischer & Porter Co. to aid in the selection and sizing of variable-area meters. The illustrated handbook contains, in condensed form, the results of 15 years' research. A complete description of variable-area meters, tubes, and floats—and a comparison with variable-head meters—has been included along with considerable calibration prediction data. (F-10)

**Quality-control men** will be interested in a booklet from General Electric Co., a booklet that presents a challenge. Maybe the continuous-sampling monitor described in the booklet can be applied to textile operations. The booklet may help you to solve some of your inspection problems. To find out if it can, send for (F-11)

**Cam-programmer thermometers** are described in a catalog published by Minneapolis-Honeywell Regulator Co. The catalog describes and illustrates the use, advantages, technicalities, and versatility of the new instruments that combine as many as six functions from a standard-sized instrument case. (F-12)

## SUPPLIES AND CHEMICALS

**Shuttle fur.** A free plastic guard to help you keep new fur clean while you're installing it in your shuttles is being


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## *Reader Service* (Continued)

offered along with reprints of a recent article on how to reduce shuttle-fur costs by Morris Fur Co. The article tells how you can make best use of your fur dollar. **(F-13)**

**Plants, personnel, and facilities** of the Burkart-Schier Chemical Co. are described in a booklet recently made available. The company makes industrial and textile chemicals, special items, textile auxiliaries, and wet-processing agents. **(F-14)**

**Chemical resistance** of various types of their coatings are given in a technical bulletin sheet issued by Frufcoat Laboratories, Inc. Resistance ratings of some 69 corrosive chemicals in both concentrated and dilute form are given. **(F-15)**

**Uses of persulfates** in the textile industry are summarized in a bibliography made available by Buffalo Electro-Chemical Co., Inc. The peroxygen chemicals are used in bleaching and in desizing. **(F-16)**

**A softener selector bulletin** that describes four new substantive softeners has been prepared by Dexter Chemical Corp. The bulletin gives performance ratings of the four new softeners and four competitive softeners as well. **(F-17)**

**Butyl "Carbitol"**—both an ether and an alcohol—is the subject of a technical bulletin issued by Carbide & Carbon Chemicals Co. The chemical is widely used for formulating nitrocellulose lacquers and synthetic coatings, and for printing and stamp-pad inks, because of its excellent solvent characteristics. It is also used in specialty soaps, soluble oils, and textile oils. **(F-18)**

**Leather belting** is the subject of a 40-p. catalog and manual released by Graton & Knight Co. In addition to indexed sizes, prices, and specifications, the catalog contains information that will help you select the proper belt for every installation and will help you to get maximum life from belting. **(F-19)**

**How do you mix your dyestuffs?** The Charlotte colloid mill, a high-speed disintegrator and emulsifier in which immiscible liquids, liquids carrying solids in suspension, and pastes are finely dispersed, disintegrated and homogenized, is described in a booklet prepared by Chemicolloid Laboratories, Inc. The colloid mill has a wide range of uses. **(F-20)**

**A water demineralizer** for laboratories is described in a bulletin issued by Barnstead Still & Sterilizer Co. This unit connects directly to any water supply and delivers the demineralized water in continuous flow from 5 to 8 gal. per hr. Seven new features of the unit are described in the bulletin. **(F-21)**

**"The Coloring of Post-War Synthetic Fibers"** is the title of a booklet recently made available by National Aniline Division. Dyeing techniques suitable for the various fibers are given in detail together with precautionary measures to be observed in processing these new products. **(F-22)**

**A stick-on tape that you can write on**—Labelon—is described in a folder issued by Southern Scientific Co., Inc. You can use the tape in your laboratory, in the supply room, for samples, and in many more places. **(F-23)**

### ENGINEERING AND MAINTENANCE

**Seven easy steps to reduce costs** and give you more light for your lighting dollar are outlined in a recent publication put out by General Electric Co. According to the booklet, you can't always tell how far the light fixture has gone just by looking at it—the only true way to determine when maintenance is needed is to use a light meter. **(F-24)**

**Golden-white light,** that given off by the new fluorescent mercury lamps, is described in a booklet from Westinghouse Electric Corp. In addition to a complete physical description of the lamp, the new


LET'S TALK ABOUT *know-how*

Mr. Webster defines **KNOW-HOW** "Technical expertness and accumulated practical skill in lining up a complicated operation for smooth and efficient execution."

Now, that's exactly how we regard our ability to engineer your textile mill conveyor layout. This skill is backed up by so many important examples in so many successful mills.

*We don't know all the answers but we really do know our conveyors and what they can do to help you save money and conserve manpower.*

*Is your product handling as efficient as it should be? One of the best ways to find out is to talk to an expert.*

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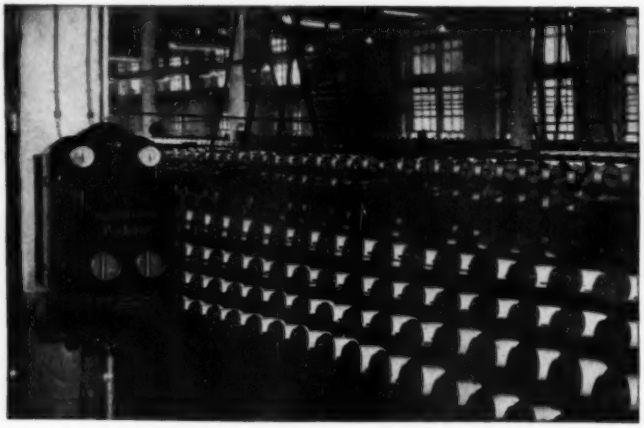

**Parks-Cramer Company**

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

## *Reader Service* (Continued)

booklet provides recommendations as to where it is best applied. Comparisons with light from other lamp sources and complete tables of technical and transformer data are also given. **(F-25)**

**The why, when, and how of modern lighting** maintenance is discussed in a bulletin prepared by Sylvania Electric Products, Inc. Emphasizing the high cost of low lighting-maintenance standards, the bulletin stresses that planned maintenance of both light sources and reflecting surfaces saves costly time and useful light. **(F-26)**

**"No glare! No heat! No eyestrain!"** That's the claim made for a lighting unit that is said to deliver true "sun" light. Called Spectro-lite, the units are described in a folder issued by John P. Filbert Co., Inc. The lights are designed for use wherever color matching or color distinction is necessary and wherever indoor sunlight is desired. **(F-27)**

**Miniature lamps** are catalogued and listed in a new publication issued by General Electric Lamp Div. The miniature lamps are operated on low-voltage sources of power—such as dry cells, battery-generator systems, and lighting circuits with voltage-reducing transformers. **(F-28)**

**25 special attachments for lift trucks** are described in a brochure presented by The Elwell-Parker Electric Co. Included are such devices as revolving forks, roll clamps, hooks and booms, electromagnets, ladle pourers, and many others. **(F-29)**

**Crane trucks**—versatile handling machines that combine travel, hoisting, booming, and slewing motions—are described in a bulletin issued by Baker Industrial Truck Div. Complete engineering specifications and drawings are included, and action photographs show these trucks at work in a variety of applications. **(F-30)**

**Make a one man job of it!** That's the advice given in a new booklet from Barrett-Cravens Co. The booklet gives comprehensive information on current models of their single-stroke, hand-operated lift truck. Complete specifications are included for the models shown, which have capacities up to 2 tons, lifted with a single stroke of the handle. **(F-31)**

**Know what to look for in a lift truck?** The inside story behind lift-truck quality is given in a booklet prepared by Towmotor Corp. **(F-32)**

**A big catalog** of conveying equipment has been prepared by Island Equipment Corp. The equipment, which features standardized and unitized construction, is said to reduce considerably the amount of assembly labor required on installation. Only standard transmission parts are used, and this means that replacement parts are always available from local sources at nominal costs. **(F-33)**

**A hydraulic high-lift truck** that is hand operated is described in a bulletin distributed by The Lyon-Raymond Corp. The bulletin describes the company's 1,000-lb. truck, which is offered in a non-telescopic model with a 60-in. elevated height and a telescopic model with a 108-in. height. The hydraulic power unit can be driven by hand or electrically. **(F-34)**

**Air-conditioning cabinets** of a new design are described in an engineering bulletin made available by Buffalo Forge Co. The units are now available in both horizontal and vertical models in sizes from 875 to 22,000 cu. ft. of conditioned air per min. Combinations may be had for any function or functions of air conditioning, including simple cooling, summer cooling and dehumidifying, winter heating and humidifying, and continuous air cleaning. **(F-35)**

**Electronic control of humidity** in textile mills is the subject of a bulletin released by the Barber-Colman Co. Specifications, detailed control description, and an installation diagram are all featured in the bulletin. The equipment has two-position aspirating controls. **(F-36)**

**Do you want to know how to repair roofs?** If you do, latch on to this book-

# SQUARE D ANNOUNCES

# NEW Lint-tight LOOM SWITCH

## with important DESIGN LEADERSHIP features...

- Flush handle reduces possibility of damage or accidental operation. Easy to operate with simple up-and-down motion. Handle position clearly shows whether starter is ON or OFF.
- Over-center cam type cover latch provides heavy clamping pressure on neoprene sealing gasket.
- Vibration or shock conditions will not affect toggle mechanism.
- Simplified wiring. Line terminals at bottom for easy floor pedestal mounting.
- Plenty of wiring space. 1¾" top and bottom. ½" at each side.
- Cover is interlocked to prevent opening when starter is "ON."
- Protected type overloads permit group fusing of several motors on a single branch circuit.
- Mechanical linkage is provided to force contacts open with direct pressure from handle.

*Write* for Loom Switch Bulletin 2510-R.
Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin.

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# Why skilled workmen Choose RIDGID PIPE VISES

8 sizes for pipe from ⅛″ to 6″

## It's extra easy to work with RIDGID Bench Yoke Vises

- ★ All have handy integral pipe rests and benders.
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- ★ Made in bench, post, kit, stand and tristand models. Chain vises in bench, post, stand and tristand models.
- ★ Buy work-saver RIDGID vises at your Supply House.

**THE RIDGE TOOL COMPANY • ELYRIA, OHIO**

RIDGID
Work-Saver Pipe Tools


## *Reader Service* (Continued)

let. The Tropical Paint and Oil Co. has prepared a booklet that shows how periodic maintenance can prolong roof life for many years and bring an old roof back to life and actually save the cost of an entirely new roof job. According to the booklet, 90% of leaky roofs can be restored. **(F-37)**

**"Solving Roof Problems"** is the title of a brochure prepared by The Tremco Mfg. Co. The 32-p. publication explores such subjects as the various types of roofs, how they are built, what factors enter into their deterioration, and how roof troubles can be diagnosed and treated. **(F-38)**

**Bearings lined with nylon** are described in a bulletin issued by Thomson Industries, Inc. Operating principles, design, advantages, and application of the bearings for rotation and reciprocation are presented in the bulletin. The bearings are said to give the advantages of nylon as a bearing material without most of the limitations surrounding its use. **(F-39)**

**Coatings that protect** metal, masonry, and wood—outside and inside—against acids, alkalies, water, oils, solvents, weather, high heat, and abrasion are described in a booklet published by David E. Long Corp. **(F-40)**

**A floor-drying compound** that absorbs oil, grease, and other liquids is described in a folder from The Eagle-Picher Sales Co. Not only does the compound make for better housekeeping, but it also will help you prevent costly accidents. **(F-41)**

**41 products and tools**—each designed to help you save time and money in maintenance, production, or construction—are described in a big folder prepared by Ideal Industries, Inc. It is impossible to describe all 41 in a short review, so why don't you write for the folder and see for yourself? **(F-42)**

**Rubber linings** that are applied to steel containers for transporting, storing, and handling many acids, mixtures of acids, and other corrosive chemicals, is the subject of a bulletin published by Metalweld, Inc. The process is used on many sizes of containers—from tank cars to drums and pipes. The rubber is joined permanently to the steel. **(F-43)**

**Case histories of metallising applications** are given in a recent publication from Metallizing Engineering Co., Inc. Theme of the publication is the idea that you can stretch your MRO dollars with metallizing. **(F-44)**

### GENERAL

**Unsightly and unsanitary washrooms** are one of the four major causes of labor unrest, according to statements by both plant executives and labor leaders. Particularly timely now, with many areas experiencing a critical labor supply, is a new booklet being offered by American-Olean Tile Co. The booklet shows actual plant installations in which janitor services and repair and maintenance costs have been cut to the bone—yet the sparkling walls and floors have made them attractive areas that help to attract and keep contented workers. **(F-45)**

**What are your drinking-water requirements?** Do some of your people have to walk so far to a water cooler that you are actually losing money by not having more installations? You can get a lot of information on the proper placement of water coolers from a booklet prepared by General Electric Co. **(F-46)**

**A style guide for folding cartons** has been issued by Robert Gair Co., Inc. The booklet, which details construction designs for folding cartons and paperboard and shipping containers, has a helpful checklist of points to be considered in planning your packaging. **(F-47)**

**"Conservation of Aluminum"** is the title of a booklet prepared by the Aluminum Association. The booklet tells you how to best use the available supplies of this strategic metal and how to take care of aluminum scrap. **(F-48)**

# A KNITTER'S DREAM COME TRUE !!!

## SUPREME'S
## Amazing, New
## Super-Loop Terry Striper!

**Model LT/SA***

**New, Long-Loop Terry Knit With Automatic 4-Color Stripes!**

Opens A Gold Mine Of New Sales Possibilities In Beachwear, Outerwear and Sportswear!

**Supreme's Most Terrific Multi-Fabric Sales-Knitter!**

Snag-resistant Super-Loops Easily Adjustable For Different Lengths and Densities!

**Uses Wide Variety of Natural and Synthetic Yarns For Consumer-appealing Texture Variations!**

Variable Striped or Solid Terrys — Light or Heavy Weight — PLUS — The Entire Range Of Model SA Jersey and Automatic Stripes!

**Knits Wide Range Of Yarn Sizes For Weights Varying From Heavy Bathrobe Terry To Light Polo Shirt Fabric!**

Easily Convertible, On The Job, Into Any Machine In Supreme's Famous Striper Line. Produce The Entire Supreme range of patterned, striped or pattern-placer cloth!

**Up To 20 Yds. Per Hour Striped Terry. Up To 30 Yds. Per Hour Single Color Terry. As An Automatic Jersey Striper—Up To 40.5 Yds. Per Hour Plain Jersey and Up To 25 Yds. Per Hour Automatic Stripes.**

Finish yourself and then write for the complete story and sample swatches.

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EXCLUSIVE FEATURES MAKE MOBILIFT BEST!

✓ **Lev-R-Matic Drive**
Grouped 2-way PUSH-PULL levers give instant, finger-tip control...forward, back, elevating, and tilting. THERE ARE NO GEARS TO SHIFT!

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Controlled power, roller-chain-operated lift allows unobstructed view between uprights.

✓ **Mobilift's 3-Cylinder Heavy Duty Engine**
Air-cooled, compact, well-balanced and operates smoothly for long trouble-free service.

*117" Lift...Floor to Forks
72" Clearance
47" Free Lift

MOBILIFT'S *"SIX-TEN"* solves a big problem when you need a fork-lift truck with *LOW* clearance and *HIGH* lift! The "SIX-TEN" gives you a *six* foot clearance and virtually a *ten* foot lift...floor-to-forks. The "SIX-TEN" easily enters truck bodies and low clearance doors, yet *tiers 3 pallets high.*

The "SIX-TEN" Mast is available on the versatile Model "E" (2,000-lb. cap.) and the EW (2,500-lb. cap.).

The H (3,000-lb. cap.) and HW (3,500-lb. cap.) models with SIX-TEN mast have a **110"** lift floor-to-forks, **72"** clearance, **45"** free lift.

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2730 San Pablo Ave., BERKELEY

# Questions AND Answers

## Four Ways To Get Permanent Marks on Cloth

Technical Editor:

**What products are available for marking cloth in the gray so that the marking can be read after dyeing and finishing? (9535)**

Many finishers use nothing more than a tube-type marking pencil filled with an ink that dries rapidly and cannot be removed in bleaching and dyeing and will not mark off on adjacent portions of the goods. Such marking pencils are available in black and in colors. An operator can quickly place on the end of the piece any marks desired. This method of marking cloth is commonly used when gray goods are inspected on inspecting machines and before the pieces are sewn together.

And many mills are using the Jiffy-type marker with good results.

Hand stamps are also used where a lot number is to be placed on the end of the piece. The operator merely stamps the goods with an indelible ink. The outfit consists of the stamp and an inkpad. These hand stamps are extensively used when goods are sewed on a flat-type sewing machine.

If the pieces are sewed on a rotary-head machine, goods are commonly stamped by an attachment that consists of an inkpot, a roller, and a rotating arm on which numbers or letters can be placed. As the cloth is sewed on the rotary head, the arm turns, contacts the ink roller, and transfers the impression to the goods.

The hand-stamp method or the pencil-marker method generally gives the clearest marks and also the most resistant ones. The machine device is apt to leave a blurred impression on the cloth so that the mark becomes difficult to read, but some mills are using the device successfully.

## Four Causes of Streaks In Steamed Broadcloth

Technical Editor:

**We are having trouble with streaks in steam-finished broadcloth. The streaks are particularly noticeable if the cloth is viewed against the nap.**

**We have long suspected that these**

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**streaks were caused in fulling, and we have experimented with many kinds of soap, both light and heavy; but we have made no headway in eliminating the streaks. (9536)**

We doubt that your trouble was caused in fulling. Assuming that the goods were brushed and napped or gigged, we think that the trouble could be any of the following, or a combination of several of them:

1. If the wires on your napper or gig are not uniformly ground, some that are higher than others will dig more deeply into the fabric. This condition could cause streaks.

2. Similarly, an old, unevenly worn brush or brushes could cause the same trouble.

3. Inadequate and nonuniform penetration of dyes in dyeing may leave light places below the surface. These light places are then scratched open in napping.

4. The trouble might even be caused in steaming, although this is not too likely. Sometimes pieces that have been inadvertently left on the alkaline side after scouring will have a migration of color during steaming. Acidifying the goods with a small amount of acetic acid just before taking them out of the washer will prevent this condition from arising.

## Nylon Plisse—Its Construction and Stiffening

Technical Editor:

**How do you get a plisse finish on nylon piece goods? How is the fabric stiffened? (9530)**

The plisse finish is caused by the crepe effect of high-twist yarns used in conjunction with three- or four-turn yarn used in the base fabric, and the effect takes place in the boil-off or other finishing operations. The high-twist yarns often have up to 30 tpi. and shrink more than the regular yarns in finishing.

Resins are commonly used for the durable stiffening of this type of fabric. The thermosetting types (such as melamines used either alone or with alkyd- or vinyl-type resins) will give a stiffening effect that lasts through several launderings or cleanings. Vinyl-acetate emulsion may also be used with good results.

## Organic Materials Are Better for Weighting

Technical Editor:

**What concentrations of weighting material do you recommend as maximums in weighting cloth? Which type is better, organic or inorganic? (9529)**

Inorganic salts can be used in concentrations up to 10%, and organic

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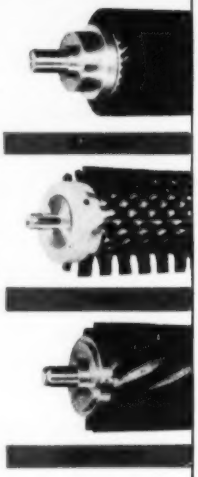

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weighting materials can be used in concentrations up to 20% or higher.

Many finishers do not favor the use of such inorganic salts as magnesium sulfate and sodium chloride, since these salts have a tendency to corrode metals when goods come in contact with metal. This objection also holds true for sodium sulfate or Glauber's salt.

Organic weighting materials such as sugar, urea, etc., can be used in concentrations up to 20% or higher. However, when you get too high in weighting materials you interfere with the finish and appearance of the goods.

## Infrared Drying Is Finding Increased Uses

Technical Editor:

**What part does infrared drying play in the textile industry today? Is it used only for special finishes, or is the process becoming widespread? Can existing dry boxes and tenters be converted to infrared operation? (9516)**

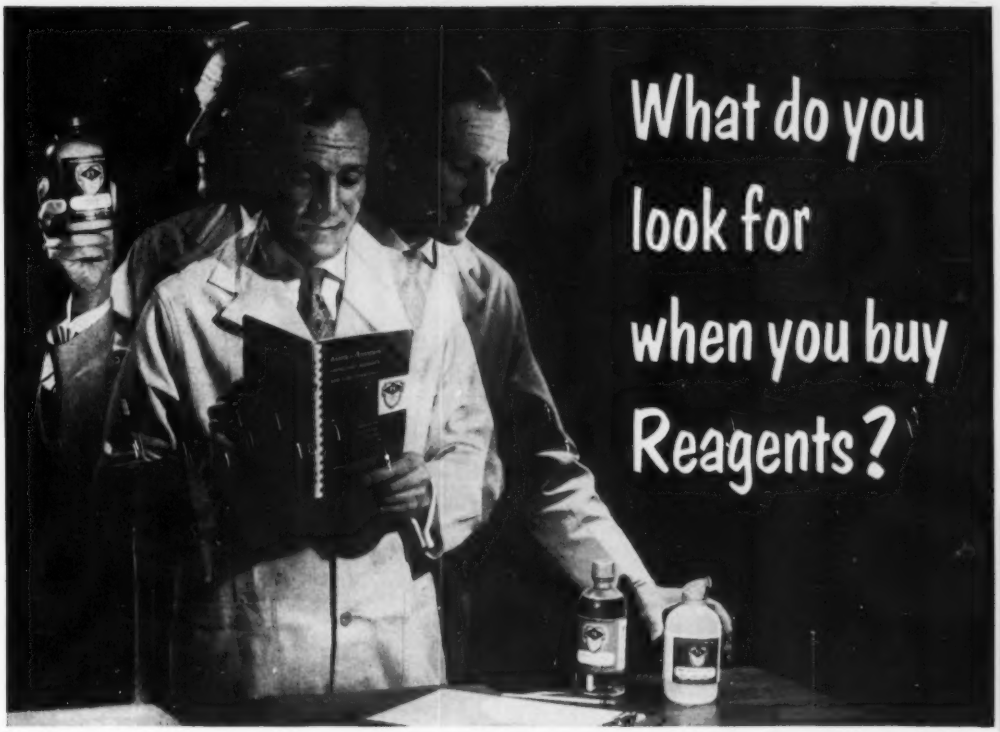
Infrared equipment for drying textile fabrics is rather commonly used today in various drying operations. Generally, it is used in connection with existing drying equipment rather than for the complete operation. This method of heating textile fabrics is also meeting with favor in the curing and polymerization of various resin-type finishes.

Infrared or radiant heating, as it is also known, is developed by means of gas-fired burners, infrared lamps, and also by electric heating panels that give off a large percentage of long-wave radiation.

Various combinations of any of the three sources of radiant heat can be found behind tenter frames, can dryers, on compressive shrinking machines, and on calenders. Infrared is used to speed up drying of either the fabric itself (by increasing the drying capacity of the machine in question) or, as on the shrinking machines, to dry the blanket more rapidly and thus attain higher production speeds.

Both panels and lamps are also used in these same positions for curing thermo-setting resins, since very high temperatures can be developed in a short distance of travel. It is often possible to "flash" cure a resin, after it has been dried by conventional means, on the same drying machine at a relatively high rate of speed.

At one time it was believed by heating engineers that the infrared rays in themselves would be sufficient to dry fabrics, but this method was found to be a rather uneconomical process unless the large quantity of

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sensible heat generated by burners and lamps was utilized.

Another use for infrared equipment is in presetting thermoplastic fibers such as nylon. Existing dry boxes and tenters can be converted to the infrared operation, since such equipment also confines the sensible heat. However, better efficiency can be obtained when the entire drying unit is designed for infrared equipment.

## Keep Extractors Clean To Prevent Rust

Technical Editor:

We are having trouble with parts on centrifugal extractors rusting.

The extractor baskets are made with a steel bottom, and the drums are reinforced with steel bands. Both bottoms and bands have been rusting.

Is the trouble due to some new chemical or detergent now being used? (9537)

We don't know of any one specific major change in textile processing that would suddenly bring about this tendency to rust.

With some of the newer synthetics, highly active oxidizing agents must be used in order to obtain a good white. These agents may have a tendency to promote and accelerate rusting of steel parts. Many fabrics are being treated with resins that, when applied and cured, may leave the fabric in an acid condition. If such fabrics are not properly neutralized and are then centrifuged, increased attack on steel could occur.

Many softening agents now used in conjunction with resin finishes are acidic in nature. Traces of such materials left in centrifuges might also increase the tendency to rust.

Whatever agent is being used, the best way to guard against rust is to make certain that all traces of the agent are removed from the extractor after each use, particularly if the extractor is not going to be used again very soon.

## Full-Fashioned Seaming —Learn By Doing

Technical Editor:

In regard to the seaming of full-fashioned hosiery, is there any literature that describes the best methods and motions to use? We are particularly interested in the interrelationship of the various simultaneous motions required on the job and in the special problems involved in training new employees for the operation. (9531)

There is no literature describing methods and motions to use in seaming. To train new employees it is best to let the new employee work

with an experienced seamer operator. This method as you will note, will take quite some time. It should take a girl an average of about 4 mo. before she can show much production as a seamer operator.

## Counterflow System Best For Washing Cotton Goods

Technical Editor:

Our plant is operating on metered water, and we wish to be as economical as possible in our desizing operation. We are handling medium-weight wide cotton goods open width and rinsing in three 72-in. bowls. The first two hold 150 gal. each, and the third holds 500 gal. The squeeze rolls leave 20% liquid on weight of goods in the cloth.

What is the optimum speed for running such goods, and what should be the rate of water change in each of these bowls? Should the water be changed continuously or by batches? How should a satisfactory rinse with less water consumption be checked? (9527)

It is pretty well agreed by most authorities that the counterflow system of washing, particularly for the removal of caustic soda and the general impurities found in cotton, is the most efficient method.

If you have a three-box or three-bowl soaper or washer, it is best to introduce fresh water at the delivery end of the equipment and counterflow this water to the entering end, where it is dumped. This system is generally preferred to the system of introducing water in each bowl. However, if for any reason it is not possible to counterflow, it is better to introduce the water into each bowl continuously rather than intermittently.

The best way to check the efficiency of the machine is to have it set up so that varying amounts of water can be introduced to the washer and the machine can be operated at varying rates of speed along with varying rates of water flow. The cloth entering can be analyzed for quantity of chemicals or impurities, and the same set of tests can be made on the cloth leaving the machine.

By comparing the quantity of impurities removed or amount of chemicals removed, you can determine the efficiency of the washer for the different conditions under which the cloth is processed.

## How You Can Reduce Tight Picks On Rayons

Technical Editor:

We're having trouble with tight picks on rayon fabrics. Our looms are Model E Draper. We reduced tension on the



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As you know, changing over to weaving a different fabric presents problems. Many adjustments must be made. But, if these can be reduced to a minimum the headache caused by such a change, can be eliminated.

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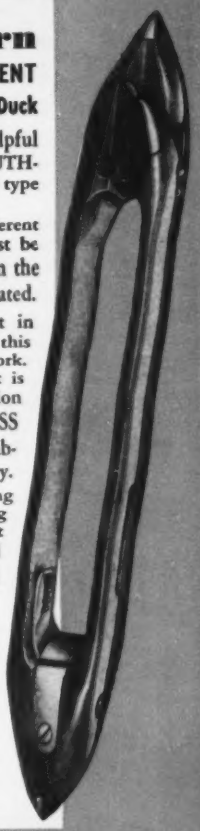

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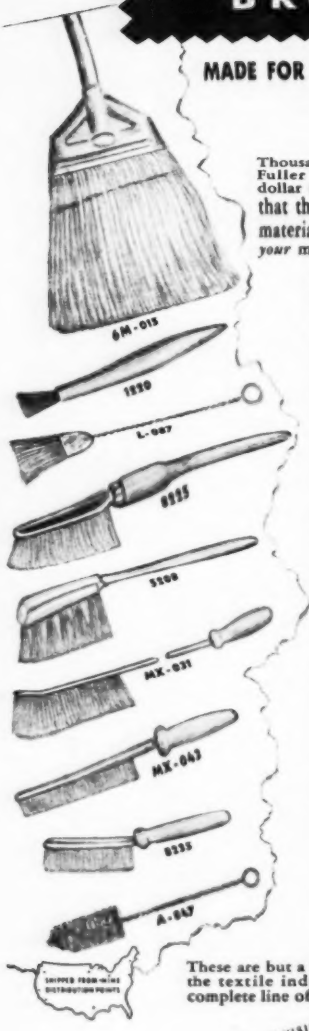


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quillers, but we still have tight picks every two or three transfers. Could it be that the yarn was wound too tight on the cones? (9532)

Your trouble with tight picks isn't unusual. Low-twist yarns must always be handled carefully in preparation and weaving, or stretched filling will result.

To determine whether your tight picks are made in weaving or throwing check your cloth to see where the defects appear. If most of the tight picks appear just before the transfer of the filling package and extend from the selvages into the cloth, the trouble lies in your looms.

If the tight picks appear to be stretched filling and show up at random through the cloth, the filling is probably stretched in preparation or is already in the yarn as you have suggested.

You were right in reducing the tension on the quillers if your trouble lies there.

Several corrections may be made on the loom to reduce or eliminate tight picks.

1. Reduce the power on the picker stick.
2. Set the tension on the warps to a smooth, even position so that the selvages will absorb some of the tension from the filling.
3. Set the tension on the shuttle eye as light as possible without making slack picks.
4. Trim the shuttle fur until the filling tension is the same on an almost empty quill as it is on a full quill.
5. Time the harness crossing to prevent slack picks (after the filling tension has been reduced to a minimum).
6. Set the checkstraps and shuttle boxes to reduce slack picks.

## No Machine Scours Woolen Yarns With Solvent

Technical Editor:

Can woolen yarns be scoured by a solvent process? (9512)

We do not know of any such process, but at least one of the machinery manufacturers in the U. S. is working on a machine to use trichlorethylene in such a process.

There is a skein-scouring machine made by Knowles & Co., Bradford, England. This machine handles many kinds of yarn in skein form and is available in several capacities. We do not believe that this machine can be used for solvents, however, because it is entirely open.

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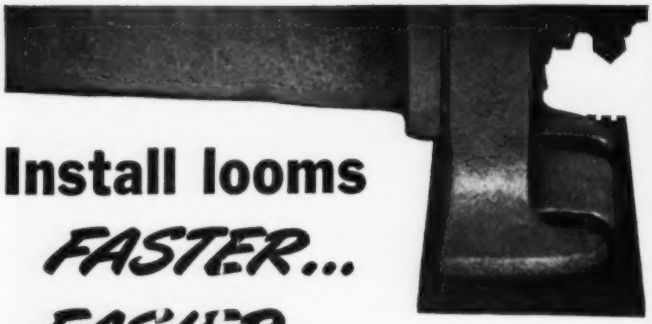

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# *Useful Accessories* For Textile Mills

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### Automatic Demineralizer

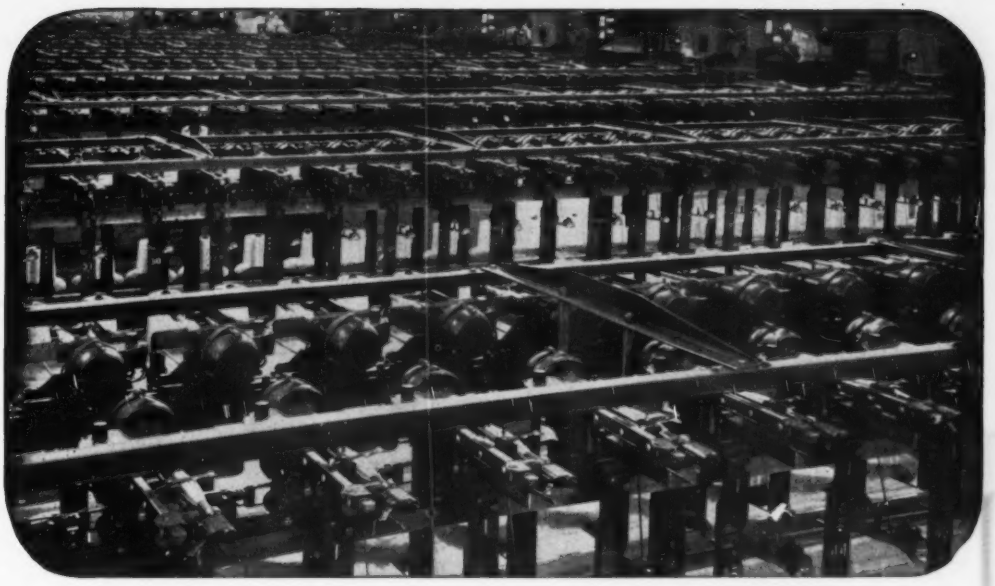
A new, ion-exchange automatic monobed unit has been added to the demineralizing-equipment line of Penfield Mfg. Co., Meriden, Conn. There are no valves to operate, and no supervision is required. Whenever the effluent's conductivity falls below standard, the treated water is automatically discharged, and lights (or other warning system) signal the need for activation of a regeneration cycle. The turning of a single switch then puts the unit through its regeneration cycle automatically, including rinsing and recutting in the effluent when desired resistivity (purity) is reached. During this regeneration cycle, the regenerative tanks are automatically refilled with water so that fresh acid and caustics may be added in preparation for the next regeneration cycle. Chemical cost of the unit is said to be only a few pennies per 1,000 gal. Various flow rates are available. (U-1)

### Brake and Clutch Calculator

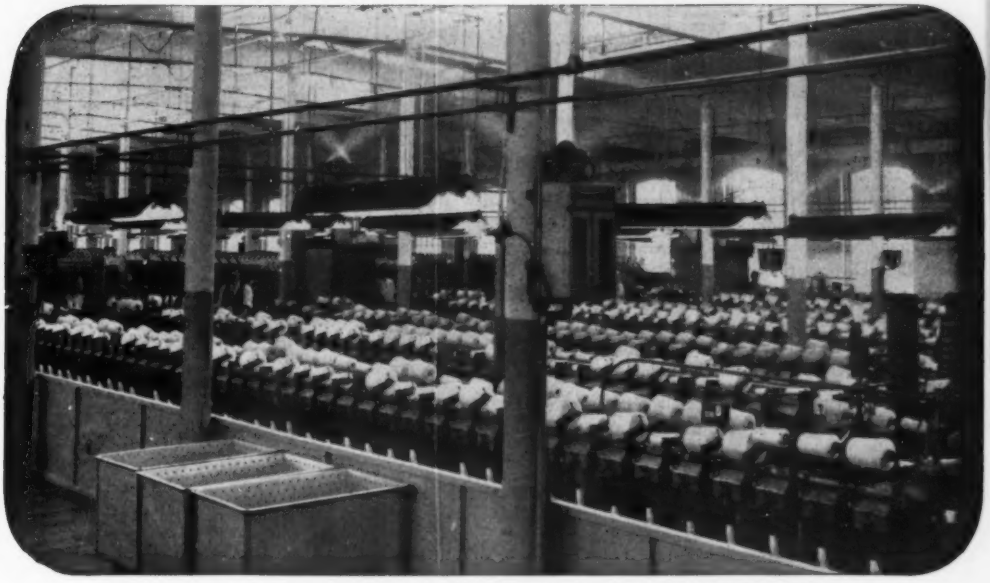
A new electric-brake and clutch-specification calculator has recently been made available by Warner Electric Brake & Clutch Co., Beloit, Wis. The device is designed to determine the size and specifications of electric brakes and clutches needed for all types of industrial machinery. Included in the data instantaneously furnished by the calculator are: stopping and starting time; mounting specifications; performance curves and formulas; torque ratings; and heat calculations. (U-2)

### Broken Concrete Repaired

Ruggedwear Resurfacer is a tough concrete-patching material suited for a variety of floor repair jobs, says Flexrock Co., Philadelphia 4, Pa., who has brought the product out. As a patch, the material can be applied without any chipping or chopping, it is said, to bond secure and tight to the old concrete right up to a feather edge. Being resilient, it stands up under the heaviest kind of pounding and will not "grind away", dust, or crack. It can be applied as a complete overlay over almost any type of old floor, indoors or out. Because it is used only in a ¼-in. thickness, the resurfacer is said not to raise the floor level appreciably, nor interfere with machinery bases or other permanent fixtures. It is reported also to be easy on the feet. (U-3)



ABBOTT AUTOMATIC QUILLERS PRODUCE MAXIMUM PRODUCTION PER OPERATOR AT LOWEST COST. 1000 TO 2000 BOBBINS OF WOUND FILLING PER HOUR PER OPERATOR.



ABBOTT AUTOMATIC WINDERS REQUIRE ONLY ONE OPERATOR PER MACHINE. 800 TO 1000 BOBBINS WOUND ONTO CONES OR CHEESES PER HOUR PER WINDER.

**ABBOTT MACHINE CO., INC.**

**WILTON, NEW HAMPSHIRE**

SOUTHERN OFFICE, GREENVILLE, S. C.

# Guides to...

## HIGHER PROFITS

## ARE MADE FROM

## "LINDE" SYNTHETIC SAPPHIRE
Trade-Mark

By using sapphire at critical points in your equipment, you can cut yarn reject losses and maintenance costs to a surprising low. Sapphire has three properties that make these savings possible: (1) It takes and holds a high polish; (2) It's homogeneous (non-porous)—can't fray yarns; (3) It resists wear and corrosion remarkably well.

More and more technicians are changing over to sapphire textile guides to protect the quality of their yarns. More and more producers find that their yarns "drag" less over sapphire guides than over any other guides they have ever used. A large rayon spinner reports *twelve years* of trouble-free service from sapphire guides in locations where other guides failed in a *few months*. It all adds up to higher output, better quality, and lower cost per pound of yarn.

"Linde" synthetic sapphire materially increases the life of your guides. Let us show you how. We'll be glad also to help you with the design and testing of standard or special sapphire guides for your plant.

Write today to the Synthetic Crystals Department.

LINDE AIR PRODUCTS COMPANY

A Division of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York 17, N. Y.

The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation.


## *Useful Accessories* (Continued)

### De-ionized Water Supply

A handy, simple, and economical device for making raw water chemically pure is now available from E. Machlett & Son, New York 10, N. Y. Called "Deeminac," the device consists of a portable polyethylene bottle with a specially blended filter of de-ionizing materials inserted in the neck like a stopper. When the container is filled with ordinary tap water, all that is required to produce a stream of chemically pure water is "one quick squeeze" of the pliable, polyethylene bottle. The special filter, which changes color when it has been consumed, will produce up to 20 gal. of chemically pure water. Replaceable filters are available. "Deeminac" water may be used wherever de-ionized water is essential or desired, even in such common items as a storage battery. The device is available in 6-, 8-, and 16-oz. bottles. (U-4)

### Demineralizer Units

The "Hydrion" demineralizer unit for the conversion of ordinary tap water to water of a chemical ionic purity of distilled water has been introduced by A. E. Tomkin & Co., Washington 9, D. C. The new service model has a capacity to produce pure water at a rate up to 5 gal. per hr. The effluent water is delivered continuously or intermittently as wanted. The operation is direct and not by batches. A larger general model is also available. (U-5)

### 80-Cu.Ft. Truck Hopper

A new 4,000-lb.-capacity high-lift platform truck with an extra-large 80-cu.ft. end-dump hopper is now available from Yale & Towne Mfg. Co., Philadelphia Div., Philadelphia, Pa. It is designed for handling bulky loads of any loose material. The hopper can be tilted downward to scoop up loads, or it can be loaded from overhead. The truck is a standard 4,000-lb. electric truck with a specially shortened platform to accommodate the hopper. A standard platform elevating mechanism is used to dump the hopper. (U-6)

### Laboratory Power Standby

Almost 67% more d.c. or a.c. power is now available from the new "Powerhouse," a portable, self-contained electric power unit put out by Fisher Scientific Co., Pittsburgh 19, Pa., that is said to be a laboratory standby for conveniently supplying variable, controlled power for a variety of jobs. These jobs include electroplating, electropolishing and electroanalysis, energizing electro-magnets, and substituting for — as well as charging— storage batteries. The unit, when attached to a 115-v., 50- or 60-cycle line, gives the laboratory worker a maximum d.c. output of 10 amps. at 10 v. instead of the heretofore available six. Alternating current is available as well, with a variable output of 0 to 130 v. and a maximum capacity of three amps. The unit employs a selenium rectifier. (U-7)

### Lightweight Belt Conveyor

A new, lightweight, arc-welded, steel-

# SEALATEX

Huge Chatham Mill, Elkin, N. C. contains 24 acres of floor space.

## seals floors in world's largest blanket mill

"We have used a considerable amount of Sealatex in our plant. It has done a fine job of adding life and service to our maple floors, while reducing cleaning time and maintenance.

"We also appreciate the excellent service given by your field men."

J. L. Benson

*Vice President*
CHATHAM MANUFACTURING COMPANY
Elkin, North Carolina

**MASURY-YOUNG CO.**
76 ROLAND STREET Dept. 48 BOSTON 29, MASS.
OFFICES IN PRINCIPAL CITIES

MYCO PRODUCTS

THESE MACK BAKELITE
BOBBINS WITHSTAND
NYLON'S MIGHTY GRIP
The cut-away photograph shows why and how these new Mack bobbins can withstand nylon's mighty grip yet provide a light weight bobbin of high impact strength. Bushings of molded bakelite are press fitted and cemented into bakelite barrels. Additional strength is gained by locking the assembly in position with the drive screws that hold the heads. Bakelite heads complete an all-bakelite construction that withstands steaming after steaming without distortion. They start concentric; stay concentric. For winder spinner use where steaming is not required, vulcanized fibre heads can be used at a considerable saving in cost.
These Mack bobbins are thoroughly proven; in more than 2 years of mill operation not one has failed in service. For full information on how you can utilize the extra strength and precision of these dynamically balanced concentric vibrationless bobbins, write, wire or phone the Allentown Bobbin Works, 417 North 14th Street, Allentown, Pa. Phone Allentown 5-1501.
ALLENTOWN BOBBIN WORKS, INC.
ALLENTOWN PENNSYLVANIA

## *Useful Accessories* (Continued)

tubing-based cleated-belt conveyor designed to move a peak volume of small parts between production machines or into containers has just been announced by Rapids-Standard Co., Inc., Grand Rapids, Mich. Called the "Press-Veyor, Jr.," this new conveyor in 4-, 6-, and 8-ft. lengths and 4-, 8-, and 12-in. belt widths is rugged, low in cost, and highly portable for maximum usefulness. It can be had with woven cotton, Neoprene, or waterproofed woven cotton belts with steel cleats spaced on 24-in. centers. Standard belt speed is 55 ft. per min.; higher and lower speeds are available. (U-8)

### Lightweight Electrode Holder

A new, lightweight 9¼-in.-long 300-amp. electrode holder has been introduced by Tweco Products Co., Wichita 1, Kans., which is known as the Model A-732. It features a lightweight, high-copper alloy for maximum conductivity. The raised upper lever allows plenty of room for the operator's hand with a welding rod in the jaws. Body and tip ends of the holder are insulated. Tip-end insulators are interchangeable. The new electrode holder will handle from 5/32 through 1/4-in. electrodes. The holder is especially designed for high-speed production, pipe welding, and job shop work. (U-9)

### Multi-Purpose Magnetic Probe

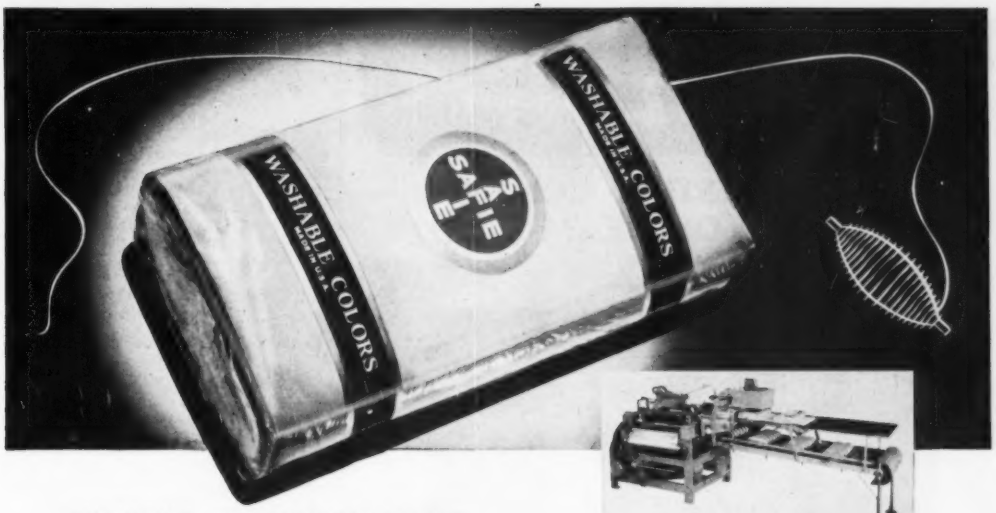
A new, improved, powerful multi-purpose magnetic probe that should be helpful in plant, shop, research, and laboratory work has been brought out by General Scientific Equipment Co., Philadelphia 32, Pa. The magnetic probe, made of super-magnetic alloy, is no larger than a fountain pen. The point of the magnet is extended or retracted from a case by turning an end-knob. Strength of pull can be controlled by amount of extension. A pocket clip is provided for safe, easy carrying. The probe is said to be particularly useful for removing steel or iron particles from areas where such foreign matter is harmful, such as the operating area of delicate mechanisms. Plant first aid stations use the probe to remove steel splinters from the eyes or skin of employees. Nurse or doctor can adjust strength of magnet for proper extraction to reduce pain or rupture of tissues. The probe can be sterilized without harming it. (U-10)

### New Gate Valve

An all-purpose gate valve, the No. 90 bronze solder end gate valve, is ideal for hot and cold water lines or low pressure steam—in plumbing, heating, and air-conditioning systems—the manufacturer, American Chain & Cable Co., Inc., Reading-Pratt & Cady Div., Reading, Pa., says. It has a sturdy, amply-sectioned body that will not distort; nor will its seat warp under soldering temperatures. It is designed for use with K, L and M copper tubing. Working pressures are: steam, 125 lb.; cold water, oil, and gas (non-shocking), 200 lb. (U-11)

### One-Coat Masonry Paint

A new one-coat masonry paint has been




# MILLIONS OF FAMOUS-NAME TEXTILE PRODUCTS wrapped on Hayssen Automatic WRAPPING MACHINES

**Save half your money** . . . own a Hayssen Automatic Textile Wrapping Machine. A Hayssen unit costs you less than you think and occupies about half the usual floor space. This machine wraps 35 or more packages per minute with one operator. You get a neat, tight, uniform package with electric-eye registration of printed overwrap . . . extra protection for your product and increased sales appeal. The Hayssen Wrapping Machine is easy to adjust and simple to maintain.

## A FULL LINE OF MACHINES WRAP

**Sheets, Pillow Cases, Bolts of Fabrics, Curtains, Underwear, Shirts, Towels, Handkerchiefs, Hosiery, Batting, Yarn**

The Hayssen Textile Wrapping Machine handles heat-sealing cellophane, pliofilm and polyethylene. It overwraps cartons, trays, flat cards and u-boards . . . handles the most delicate fabrics and fluffy material like cotton and wool bats. Special attachments (electric eye, roll-type top labeler and printer, card or u-board feeder) are available.

Over 42 years' experience gives Hayssen machines unmatched performance, low first cost, overall economy of operation and maintenance. Many Hayssen units are in use today that were purchased over 20 years ago.

*WRITE for folder on Hayssen Textile Wrapping Machines. Tell us your wrapping problems —we may have the answer.*

IT PAYS TO WRAP THE HAYSSEN WAY

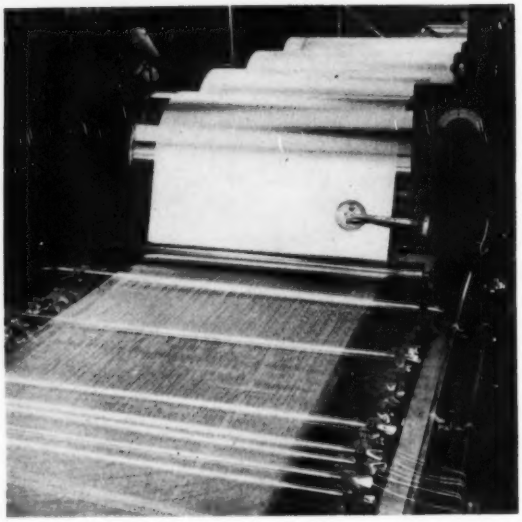
**Hayssen MFG. COMPANY**

**Dept. TW-6, SHEBOYGAN, WISCONSIN**

Since 1910, One of the World's Largest Manufacturers of Wrapping Machines

Fielden INSTRUMENTS AND CONTROLS

# ACCURATE MOISTURE CONTROL FOR SLASHERS ON BEAM DYED OR ACETATE WARPS



In sizing of acetate, viscose, cotton, jute, worsted and other yarns, many mills have found their moisture controls unreliable. This has happened more frequently in the preparation of acetate, warps using a conductive sizing material, or in mills slashing beam dyed yarns.

Resistance moisture control systems require constant pH values in the warp for accuracy. dye, or size material can change pH.

The Fielden Drimeter measures moisture by a change in electrical capacitance and is unaffected by pH. It is accurate on any warp.

## TROUBLED WITH "SANDPAPER" WARPS?

Sandpaper, like warps, are usually the result of baking the starch in the sizing operation—in a word, overdrying.

If you're having trouble with sandpapering, put a Fielden moisture indicator and automatic speed control on your slashers and end the trouble. *Leaving* the proper moisture content in the warp will prevent sandpapering and give you a nice, smooth warp.

We'll be glad to help you make a test—and *prove* it—right in your plant.

## DRIMETER CONTROL IN SLASHING MEANS:

1. More moisture left in warp and so lower humidity needed in the weave shed.
2. Better weaving warps, fewer ends down.
3. No "sandpaper" due to size baking in starch warps.
4. Drimeter gives accurate moisture readings on beam dyed yarn and acetates.
5. Calibration of Drimeter is easy and instantaneous, requiring no laboratory tests.

Fielden

**INSTRUMENT CORPORATION**
**2920 NORTH 4TH STREET**
**PHILADELPHIA 33, PA.**

*a subsidiary of:*
**ROBERTSHAW-FULTON CONTROLS CO.**

## *Useful Accessories* (Continued)

brought out by United Laboratories, Inc., Cleveland, Ohio. Called "Mason-Coat No. 310," the product is an oil-base paint designed for the two-fold duty of decoration and protection against moisture infiltration. It is applicable to both interior and exterior surfaces of concrete block, cement, brick, stucco, asbestos, cement siding, and other types of masonry surfaces. It can be applied by brush or spray over either new masonry or surfaces that have been previously painted. Available in white and several tints, it is said to withstand severe weather and temperature changes. (U-12)

### Panic-Proof Fire Extinguisher

A non-inverting, pressurized, water-type extinguisher that offers immediate fire-fighting efficiency is being introduced by General Pacific Corp., Los Angeles 21, Calif., and General Detroit Corp., Detroit 7, Mich. Designed for all type buildings, this underwriter-approved general quick aid, water-type fire guard is especially recommended for use out-of-doors with an anti-freeze charge when subject to freezing temperatures. All parts are removable as a single unit since the operation lever, carrying handle, discharge tube, and carbon-dioxide cartridge are all attached to the head assembly. The panic-proof puncture pin insures that discharge will take place, once the seal is punctured, regardless of the position of the handle. (U-13)

### Unique Fog-Spray Nozzle

A versatile fog-spray nozzle with a handy 3-ft. applicator, controlled spray pattern and volume, positive shut-off, and garden hose connection has been developed by Bete Fog Nozzle, Inc., Greenfield, Mass. Known as the HX5 nozzle, it is said to be excellent for cleaning, washing, applying chemicals, and for certain types of fire protection. Interchangeable fan-spray disks, precision machined from stainless steel, are available for fan angles from 10° to 90°, with a $\frac{1}{16}$ to 8-g.p.m. flow. The applicator itself is of lightweight aluminum tubing, furnished straight or bent to a 30° angle. The HX5 nozzle operates at ordinary 30 to 100-psi. pressures. (U-14)

### Water Repellant for Masonry

Hydrocide (Colorless) SX, a stable, highly penetrating solution of organic silicone compounds in volatile solutions for making water repellant in depth all types of porous masonry, has been developed by L. Sonneborn Sons, Inc., New York 11, N. Y. When applied to structurally sound exterior concrete or masonry surfaces it soaks into them, lining the internal pores and capillaries with highly water-resistant silicone polymers. Single applications at any working temperature are said to provide complete protection immediately upon evaporation of the solvents. (U-15)

**if it's IRON,**
**if it's STEEL,**
**if it's SCRAP,**
**. . . put it back to work**
**NOW!**

# Always Uniform

Thread . . . whether on a seamstress' spool or a mill spindle . . . must conform to high standards . . . inch after inch, mile after mile.

That goes for Victor Mill Starch, too. Mill men know they can depend on its unvarying quality . . . the uniform penetration, strength and smoothness it provides.

Both Victor and the Keever man who serves you, are known as "The Weaver's Friend" throughout the industry.

TEXTILE SALES DIVISION
1200 WOODSIDE BUILDING
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Manager

**THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO**

*Corn, wheat and other grain products for industry since 1898*

for
SMOOTHER
SOFTER Pick Action....
use
HEIM....
*Unibal*
SWEEP
STICKS

*Write for detailed specifications on sizes and prices.*

*Installation is simple...*
*Prices are low...*
*Savings are great.*

**Assembled as an integral part of the sweepstick is a Heim Unibal Spherical Bearing to replace the usual loose fitting, oversize stud hole. Because of the longer life of this bearing, and its smooth, quiet operation, replacement of worn-out sweepsticks is less frequent and pick action is softer.**

***The extra yardage produced through uninterrupted operation has been sufficient in every case to pay the initial cost of the sweepsticks many times over.***

THE HEIM COMPANY
FAIRFIELD, CONNECTICUT

# Books of Interest

## An Economic Study Of Rayon Manufacturing

COMPETITION IN THE RAYON INDUSTRY, by Jesse W. Markham (Asst. Professor of Economics, Vanderbilt Univ.); Harvard University Press, Cambridge, Mass.; cloth, 245 pages, $5.00.

This economic study of the U. S. rayon industry seems mainly concerned with developing the idea that an oligopoly—the relatively few rayon companies—can operate without endangering the public interest. It concludes that while the rayon industry may not fulfill the conditions of perfect competition, it is subject to enough highly competitive forces to cause no alarm among those concerned with the problems of monopoly.

The book is also a study of the history and development of the rayon industry, of pricing of rayon, and of cycles and trends in rayon output and prices. The section on history is full of rich and intresting facts, such as the item about the original investment in American Viscose Corp. being repaid by 38,000% in 24 years by its net profits.

While this book will be of interest to those concerned with the operations and economics of the rayon-producing industry, it will be of limited interest to textile-mill operating executives. Of main interest to this latter group is the chapter on cycles and trends in rayon production and pricing, as these are related to the "textile cycle." Also of interest to textile engineers is a discussion of the relation of rayon-plant production to unit costs.

## A "How To" Book For Communications

TALKING IT OVER WITH EMPLOYEES, STOCKHOLDERS, AND DEALERS, National Assn. of Manufacturers, 14 W. 49th St., New York, N. Y.; paper, 60 pages, single copies free, additional copies, 30¢ each.

More than enough has been said and written on the need for "communications." Not enough has been written on how to communicate. This manual fills that need.

The manual, designed especially for small companies, contains four sections: (1) a communications calendar suggesting week-by-week activities for a 12-mo. period, (2) actual samples of talks, letters, bulletins, etc., for communications with employees, (3) samples of communications with stockholders and dealers, and

*Now an Important Part of the American Market*

# Thomas Hodges Corp.

OFFERS

# yarns and staple fibres

PRODUCED BY

# Farbenfabriken Bayer

(FORMERLY I. G. FARBEN)

BAYER Perlon

## Nylon

(PERLON)
POLYAMIDE FIBRE

**30 DAY DELIVERY**

1½-20 denier
1½" to 6" staple cuts. Bright, dull, extra-dull. Natural and 28 stock dyed colors.
TOW 2.75 to 6 denier—100,000 aggregate denier.
Filament Yarn 1800 denier and up.

Cuprama

## Cuprama

RAYON STAPLE FIBRE

The most wool-like fibre from a cellulose base available anywhere in the world. Feels like wool! Looks like wool! Spins like wool!

**3 WEEK DELIVERY**

1½-20 denier
1½" to 6" staple cuts. Natural or dope dyed (solution dyed) in 28 colors. Any shade in 5 ton minimum lots.

CUPRESA

## Cupresa*

CONTINUOUS FILAMENT CUPRAMMONIUM RAYON YARN

2.5 - 150 denier.
Natural and dope dyed (solution dyed) in 28 colors.
Any shade in 5 ton minimum lots.

*Reg. appl. for

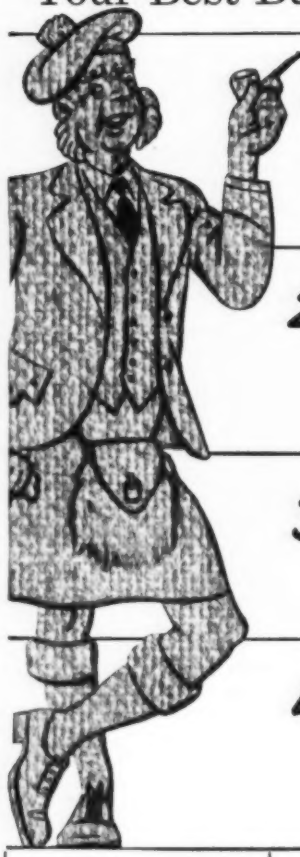
Featuring
**CONTROLLED UNIFORMITY...**
for greater manufacturing efficiency and a better finished fabric.

**THOMAS HODGES CORPORATION**
11 W. 42nd St., New York. Tel. BR 9-1628-1629-1630
Warehouse, Box 86, Kearneysville, W. Va.

Sole sales representatives of Farbenfabriken Bayer (Formerly Famous I. G. Farben) Chemical Fibre Division

# You Need Burlap! We Have it!

## and here are 4 reasons why Bemis is Your Best Burlap Source . . .



**1 You Benefit from Our Large Operations**

Bemis is the largest burlap importer. Whatever the supply situation, Bemis customers are in the most favorable position.

**2 You Benefit from Our Knowledge of Quality of Burlap**

For many years, producers and users alike have accepted Bemis' grading of Indian burlap as the standard for the industry.

**3 You Benefit from Our Knowledge of the Burlap Market**

We follow the market daily in our regular operations.

**4 You Benefit from Bemis' Large Facilities**

Sixteen plants and seventeen additional sales offices, all strategically located, assure you a dependable source of supply.

*Bemis is headquarters for all grades and weights of burlap . . . including widely-used 10-oz., and the popular, special-finish Angus, which only Bemis imports.*

BEMIS BRO BAG COMPANY

# Bemis

Baltimore • Boise • Boston • Brooklyn • Buffalo • Chicago
Charlotte • Cleveland • Denver • Detroit • Indianapolis
Houston • Jacksonville, Fla. • Kansas City • Los Angeles
Louisville • Minneapolis • New Orleans • New York City
Memphis • Norfolk • Oklahoma City • Omaha • Phoenix
Philadelphia • Pittsburgh • Salt Lake City • San Francisco
St. Louis • Salina • Seattle • Vancouver, Wash. • Wichita


(4) ideas on effective tools and techniques that can be used in the communications job.

### Other Books Received

**12 Pointers That Lead to Promotion**, by R. H. Moulton, Updegraff Press, Ltd., Scarsdale, N. Y. 50¢ per single copy.

**Defense Contract Pricing**, Chamber of Commerce of the U. S., Washington 6, D. C.

**Laboratory Evaluation of Wear Resistance of Non-Woven Fabrics**, PB 104,795, Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C., 50¢.

**Flameproofing Fabrics**, (a QMC bibliography of literature and patents, 1935 to 1950) PB 105,479, Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C., $1.25.

**Quartermaster Research on Water-Resistant Textiles**, PB 105,661, Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C., $5.00.

**Vinyl and Related Polymers**, by C. E. Schildnecht, John Wiley & Sons, 440 Fourth Ave., New York 16, N. Y., 723 pages, $12.50.

## *Mill Maintenance*

### Make Your Belts Do Their Job

High-speed electric motors that drive one machine can make flat-belt tension a headache.

The sag on long center drives on the old installations gave all the tension necessary to prevent slippage, but the drives that cut the distance between the driver and driven pulleys to a couple of feet must have the tension added by some external means.

The most logical way to prevent belt slippage is through the motor base.

Rigid bases should not be used. When the belt stretches on a rigid base, the base must be moved or the belt must be taken off and spliced.

Idler pulleys may be used to take out belt slackness but are usually not practical on short center drives.

The motor may be bolted to slide rails with good results, but the motor and machine have to be shut down

# G-E RUBBER-PHENOLIC cones last longer

Heavy-duty jute cone molded of shock-resistant G-E rubber-phenolics by JACOBUS PLASTICS CO., Jacobus, Pa., for Revonah Spinning Mills, Inc., Hanover, Pa.

Cones made of General Electric rubber-phenolic plastics last much longer than wood. They're far stronger—eliminate splitting and chipping from rough handling in use. They can be shipped more safely without protective containers.

Thirty per cent *lighter* than wooden cones, G-E rubber-phenolic cones are easier to handle and cheaper to ship. Their *uniform* weight helps you calculate shipping weights more accurately.

G-E rubber-phenolic cones provide better retention of the jute package during weaving (they are capable of carrying twenty pounds of jute). This eliminates costly delays.

Why not check over the items *you* buy which must be tough, light and resilient? G-E rubber-phenolics are being used successfully in numerous industrial applications which *demand* longer service life. Take advantage of these new high-strength materials for your bobbins, cones, pirns and other spinning mill parts for greater economy and higher operating efficiency.

**For more information** on G-E rubber-phenolics, send in this coupon.

*You can put your confidence in—*

**GENERAL ELECTRIC**

124-4D

**General Electric Company**
**Section 124-4D, Chemical Division**
**Pittsfield, Massachusetts**

Please send me more information on G-E rubber-phenolics.

Name_____

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City_____ Zone___ State____

# ROTARY UNIONS

(Trade Name)

Type "S" ROTARY UNIONS

**A REVOLVING STEAM CONNECTION**

Pipe sizes ¼" through 3"

## Mr. Taft* says . . .

**(E. M., that is, not Robert A.)**

"We purchased some vertical dry can equipment three years ago. It had used ROTARY UNIONS as original equipment.

"These ROTARY UNIONS have performed better than any other steam joint we have ever used and we have never even touched them for adjusting in all this time. We have since installed them on our old equipment and they are doing a wonderful job. They are such money savers on maintenance and in eliminating down-time that it is going to be ROTARY UNIONS 100% for us from now on."

ROTARY UNIONS are "doing a wonderful job" on slashers, dry cans, calenders, and printing and coating machines in thousands of mills. Write Department 6W for our catalog.

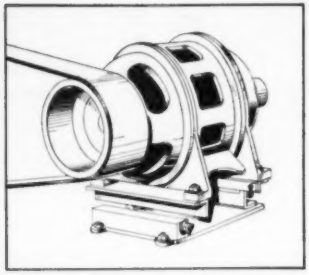
* Superintendent, Falls Company, Norwich, Conn.

"Where *Good Connections* Count" ®

**PERFECTING SERVICE COMPANY**

332 Atando Avenue (Home Office and Factory) Charlotte, N.C.

Offices in Chicago, Cleveland, Philadelphia, Providence, New York, Montreal, Toronto

**AUTOMATIC BASES maintain belt tension automatically by weight or by reaction torque of the driving motor. Correct tension for the load is maintained.**

to increase the belt tension, and the motor pulley has to be realigned manually.

The best manually adjusted base is the type that is adjusted with thumbscrews. Once the motor is aligned, the tension can be increased by turning the thumbscrews. When this base is used, someone still has to check the belt for slackness.

### Automatic Bases Maintain Even Belt Tension

Since a tight belt results in short life of both the belt and the bearings next to the pulleys, automatic bases should be used on most motors. Automatic bases maintain tensions to fit load requirements, yet they eliminate continuously high tensions. If automatic bases are used, it is not necessary to have someone check belt tensions.

Automatic-tension bases are made in three types:

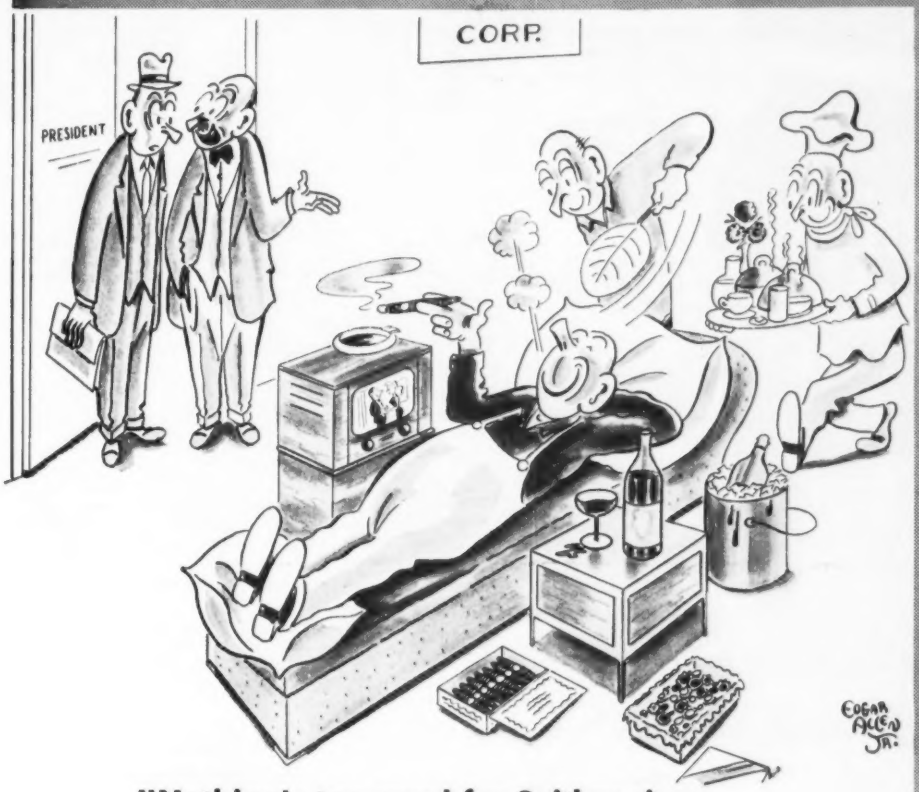
1. The gravity-pivoted base is designed for part of the motor to overhand a pivot center of the base on the opposite side from the driven pulley, and the weight of the motor maintains a constant belt tension.

2. The reaction-torque base can be used equally well on floors, walls, or ceilings, since gravity has little bearing on the function of this base. The belt tension increases on the torque base as the load on the motor increases.

3. The spring-type base adjusts the belt tension through springs that increase the tension while the motor is running. This base, like the reaction-torque base, can be mounted both vertically and horizontally.

### The Belt Must Suit the Load

Use the horsepower-rating tables for flat leather belting approved by the American Leather Belting Assn. or the tables supplied by the belt manu-




## "Nothing's too good for Snitley since he talked me into using Swift's Soaps!"

Perhaps our illustration is a bit far-fetched, but reports from customers in the textile business indicate that Swift's Soaps really fill the bill. They *stand out* in dyeing, fulling, scouring and other specialized applications.

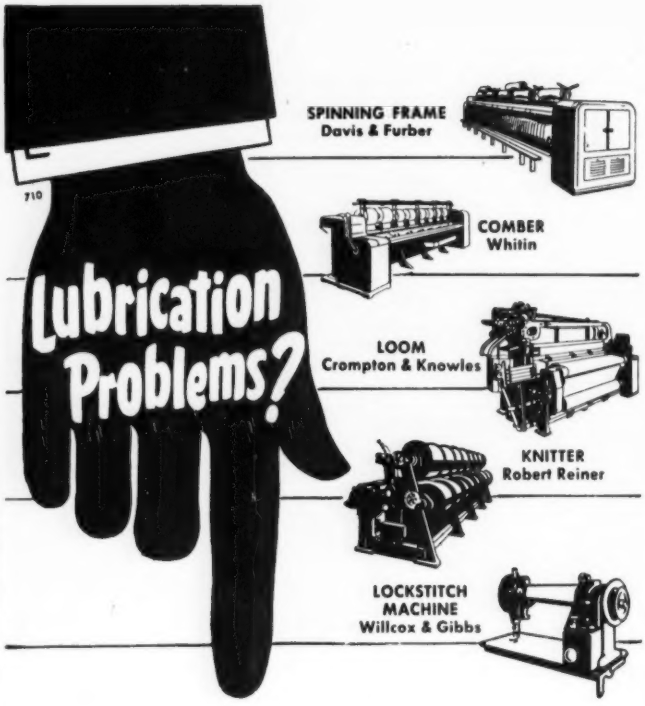
Yes, Swift has the *right* soap for *every* textile need. And every soap in the Swift line combines excellent physical form with proper uniformity of composition for top performance on the job.

If you're faced with a unique, especially tough soap requirement, call on us. Our years of soap-making experience can help you find a soap that fits your particular operations.

**Call SWIFT first for soaps**

*Listed below are some of Swift's fine soaps. You can order any one of them from Swift's distribution points coast to coast and expect immediate delivery.*

*Vertex Flakes*
*557 Flakes*
*White Ribbon Flakes*
*Wool Flakes*




***not on these machines!***

**...they're all BIJUR equipped**

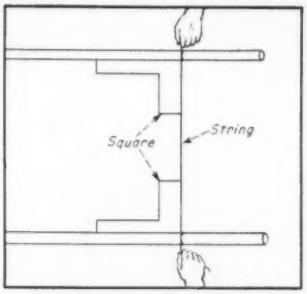
Each maker of these machines had your best interest in mind when he built-in a Bijur lubricating system. Human carelessness and forgetfulness are eliminated by machines having built-in Bijur lubricating systems. These machines will never be shut down because they lack continous, proper lubrication. Make certain the machine you buy is furnished with a Bijur lubricating system.

*Write for Bulletin 6A*

**BIJUR**

**LUBRICATING CORPORATION**

Rochelle Park • New Jersey




**CHECK THE SHAFTS WITH A LEVEL.** Hold a string between the shafts and use two carpenter's squares to determine if the shafts are parallel.

facturer to select the proper size of belt for the load to be transmitted.

Belts that are too light stretch excessively and have short life. Belts that are too heavy do not flex properly and soon crack.

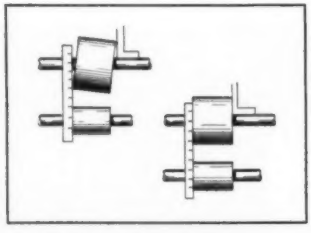
The size of the pulleys should be selected to obtain the desired machine speed. The most economical belt speeds lie between 1,500 and 4,500 ft. per min. The diameter of the pulleys should be as large as practicable to minimize the flexing strain on the belt.

When possible, belt drives should be designed to have the tight side of the belt on the bottom to provide the maximum arc of contact with the pulleys.

### Align the Shafting and Pulleys

The shafting and pulleys should be aligned so that the belt will not run off the pulleys on one side, will not rub or climb flanged or step-cone pulleys, or will not rub the machine guards or other obstructions.

To check the shafts for alignment, use a spirit level. Another way to check shaft alignment is to use a square and a piece of string. Hold the string tightly between the two shafts, and place a square against one



**SQUARE ONE PULLEY** with a carpenter's square and use a straightedge to determine if the pulleys are in line. The straightedge and pulleys should contact at four points.



For more information, write direct or use Reader Service post card.

**ADDITIONAL**

# luster

## MERPENOL

### For All Fabric, Warp, and Skein Mercerizing

Merpenol is an efficient, economical liquid wetting agent for use in mercerizing solutions. In very small quantities it causes instantaneous wetting out and uniform penetration of the caustic liquor which results in a smooth round surface and added luster.

Quickly penetrating tightly woven and heavyweight fabrics, Merpenol leaves the fibers open and swelled for uniform dyeing and level shades. It avoids scum or sludge in caustic recovery systems because it dissolves immediately and completely in mercerizing baths.

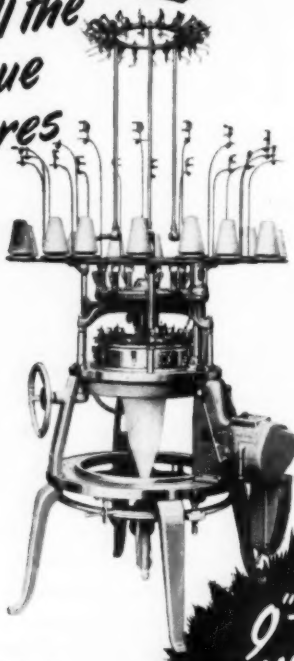
It also may be used to advantage in alkaline detergent baths; as an auxiliary scour and penetrant for cotton in pressure or open kier boils; and in helping to remove Pectins. It is effective in removing graphite and lubricants when used on knitted goods before bleaching. When used with caustic alkalis in a box or jig, it acts as a scouring assist for rayon.

Additional information and samples of Merpenol will be supplied on request.

50th Anniversary 1902-1952

**JACQUES WOLF & CO.**
*Chemicals* PASSAIC, N. J.

Passaic, New Jersey Branches: Carlstadt, N. J. • Los Angeles, Calif.

The New
Mellor Bromley
INTERLOCK
Multifeeder and stripe or check pattern machines
with all the unique features

9"-30" DIAMETERS
20-24 CUTS
★
Send for full details, to the builders of more than 7000 Interlock machines operating successfully in almost every country in the world.
K17A
MELLOR BROMLEY & CO. LTD
LEICESTER · ENGLAND

shaft and then the other. The square should touch all points of the two shafts and the string.

The pulleys should be balanced and free from vibration. A straightedge and a square should be used to align pulleys. If pulleys are the same width, the straightedge should touch the four points at the edges of the pulleys. If one pulley is wider than the other, the two edges of the narrow pulley should be the same distance from the straightedge.

The alignment of the shafts and pulleys should be checked once each year.

**Clean the Belts**

Belts should be removed from the pulleys and cleaned periodically. The frequency of cleaning depends on the accumulation of oil, lint, or dirt on the belt. In any case, do the cleaning at regular intervals.

Belts are cleaned with a solution of one part carbon tetrachloride to three parts of unleaded gasoline, or with any of the cleaning fluids used by dry-cleaning establishments. All oils and greases can be removed if a stiff jute brush is used, as well as a little "elbow grease."

To eliminate fire hazards, cleaning and soaking of belts should be done in an open space or where there is plenty of ventilation.

After being cleaned, the belt should have a coating of belt dressing that is approved by the belt manufacturer applied to the surface to replace the currier's oils that may have been washed out in the preceding cleaning process.

Under normal conditions, belts should be dressed every 3 to 6 mo.

Endless belts should be used if possible. Laps should be inspected when the belts are cleaned. Laps that show signs of opening should be re-cemented.

When a new belt is installed, the old belt should not be used to determine the proper length of the new one. To determine the length of a new belt, reduce the distance between pulley centers to a minimum, and measure the over-all distance outside the pulleys with a steel tape pulled around tight.

New belts usually stretch $\frac{1}{8}$ in. per ft., and allowances should be made to take up the slackness.

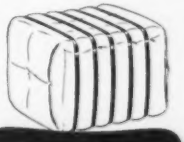
Proper maintenance of belt drives not only results in longer belt life but also increases the speed of the machines, reduces the electricity costs, lowers the motor temperature, and insures lower replacement of all motor-drive parts. *Power Transmission Council, Inc.*

# Acme Steel Strapping Insures S.A. *(Safe Arrival)*

**TIGHT SQUEEZE ON A LADY'S DRESS.** Every week Paramount Printing & Finishing Co. ships out millions of yards of dress material. It's all compressed and then held under tension by Acme Steel strapping to save on shipping space. It gets where it's going quickly, safely and inexpensively.

Whether you ship your fabric, yarn or knit goods in bales, boxes or cartons—it travels *safer* when Acme Steel strapping protects it.

You save on packing and shippings costs, too. We have many striking examples of this. Write for them to Acme Steel Products Division, Dept. TW 62.



ACME STEEL

**ACME STEEL COMPANY**

2820 Archer Avenue, Chicago 8, Illinois

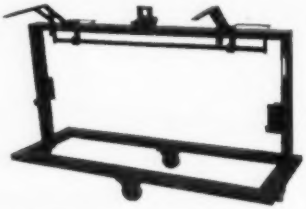
# PADDOCK TRUCKS

## Designed and Built To Serve Textiles Best

GALVANIZED METAL — ALUMINUM — STAINLESS STEEL

**TRIDENT TRUCK**

Double tier truck made of all steel, welded construction, 10" wheels in center, 3" swivel casters at each end. Made to any specifications. Used for storing cheese boards; haul cheese boards from spooler to warper; transport cheese boards to twister room. Eliminates crating or uncrating cheese when yarn is needed.

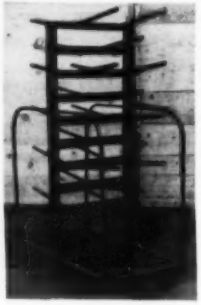


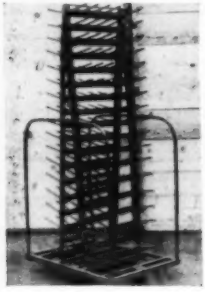
**SPECIAL WARP TRUCK**

All steel, welded warp truck for textile plants using overhead rails in weave rooms and where aisles are too narrow for warp trucks. Warp is drawn right on this truck also. Top section of this truck, with the warp, lifts off with the overhead rail and then can be moved to any loom in the weave room.

**SPOOLER DUMP TRUCK**

Used to dump yarn into spooler box, or empty quills into Abbott winder elevator. Eliminates lifting of heavy boxes when pouring yarn into spooler boxes. A time-saver when used to catch empty quills from quill cleaner. With one dump the elevator can be filled on winder. Made to fit any spooler or winder elevator. Heavy steel welded.





**CHEESE TRUCK**

For creeling twisters and for storage. No cheese boards used with this type truck. Can be pushed down twister aisles which puts cheeses at operator's finger-tips at all times. Prevents damage to yarn, eliminates digging into box for yarn. All steel welded construction.

**PIN TRUCK**

"A" Frame type has 216 pins; all steel welded construction. Can be constructed with any number of pins. Used in doffing twister frames operating on rayon, nylon, fiberglass yarns. An excellent storage truck; ease of lifting of pin boards; no damage to yarn.

## J. C. PADDOCK CO.

SPARTANBURG, S. C.

*Representatives*

| | |
|---|---|
| TEXTILE SPECIALTY CO. | Greensboro, N. C. |
| W. S. MURPHEY CO. | Atlanta, Ga. |
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| W. H. GIBSON | San Antonio, Texas |
| SAM E. MABRY | Spartanburg, S. C. |
| WM. R. FOX | P. O. Box 380, Providence, R. I. |
| GREENVILLE TEXTILE SUPPLY CO. | Greenville, S. C. |


## New Dyes and Chemicals

(*Continued from page 168*)

claim, and they are said to be fugitive even after the tinted yarns have been subjected to steam-setting treatments prior to the scouring operation. The tints come in five colors: red, yellow, blue, orange, and purple.

### New Soluble Wool Oils Give Unusual Performance

After extensive testing in actual mill runs, Carbide & Carbon Chemicals Co., 30 East 42nd St., New York 17, N. Y., recently announced a series of "Ucon" brand synthetic water-soluble wool oils that it claims has outstanding properties for use on both the woolen and worsted systems. The oils differ in performance and in chemical nature from animal, vegetable, and mineral oils.

For the woolen system, the concentration usually required is only 2% of the weight of the wool—a 50 to 80% reduction in the amount of conventional oils needed. On comparative mill runs, card strippings were reduced 18%; ends down in spinning were reduced as much as 90%. In worsted processing, the lubricants are said to lessen fiber breakage and to provide excellent spinning qualities.

"Ucon" lubricants are merely stirred into water without heating. No borax, soap, ammonia, lard oil, oleic acid, surface-active chemicals, or emulsifying agents are necessary to solubilize them. Uneven results in dyeing and finishing caused by residual lubricant are eliminated since the lubricants are completely removed from the fibers with a minimum of scouring.

The lubricants do not thicken, become rancid, or develop hard-to-remove oxidation products. They are non-staining to wool fibers, non-corrosive to textile equipment, and do not attack rubber or leather, the maker states.

### New Spectrolene Developed

A new addition has been made to the line of Spectrolene dyestuffs offered by Hilton-Davis Chemical Co., Cincinnati, Ohio.

The new color is Spectrolene Garnet G. When coupled to various naphthols, it produces shades of bordeaux, garnet, and red-violet that retain good fastness to washing and light, the maker says.

Addition of Garnet G to its line brings to eight the number of Spectrolene colors available from the company.

### Anti-Static Agent for Size Aids Running of Synthetics

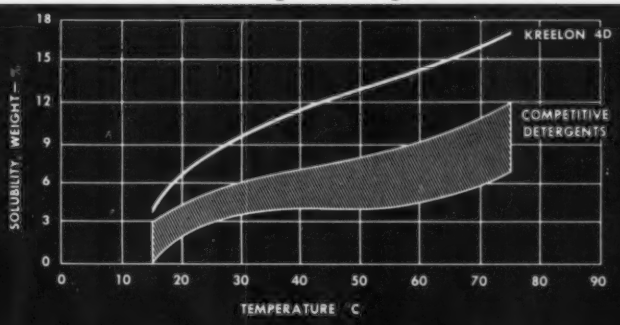
Its new anti-static agent for gelatine size also acts as a warp softener, says Dexter Chemical Corp., Boulevard P. O. Box 1, New York 59, N. Y. This anti-static agent for acetate, rayon, nylon, and the newer synthetic fibers has been developed primarily for use with gelatine-type size solutions.

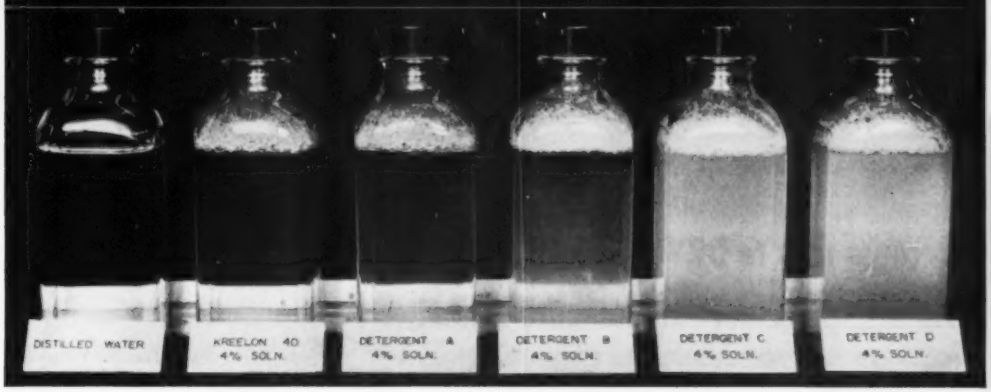
In addition to its anti-static properties, Lektrostat GY, as the agent is called, also

## Dependable Source of Textile-processing Chemicals

WYANDOTTE CHEMICALS

KREELON AND COMPETITIVE DETERGENTS SOLUBILITY AT VARIOUS TEMPERATURES




### BULLETIN BOARD

***Soda Ash:***
To insure adequate supply for all our customers even in periods of short supply, we are expanding our soda ash production facilities. **Meanwhile, there's plenty to go around now.**

***New Pluronics*:***
Look into this **first 100%-active flake nonionic ever commercially available.** Another Wyandotte first with application in scouring, sizing, carbonizing, desizing and dye leveling of wool, cotton, silk and synthetics.

***Caustic:***
Our rayon-grade caustic soda is virtually free from sodium chloride, sodium chlorate, iron and other impurities. Produced by the mercury-cell method, it's **naturally pure.** Samples available.

***Carbose*:***
In carefully controlled tests on cotton, as little as 1% Carbose (Wyandotte's Na CMC, a detergency promoter) has increased soil removal and whiteness retention of many different formulations from 10% to 40%. Ask for details and/or samples.

***"Wyandotte and the Textile Industry":***
A new pamphlet briefly describing properties, application and shipping information of Wyandotte's line of products for the textile field. Send for it.

# Tests give two-way proof of Wyandotte KREELON solubility:

In this solubility-comparison test (bottles, above) using a 4% solution of KREELON and competitive detergents (25°C.), KREELON's superior solubility is outstanding. Observe KREELON's freedom from insoluble impurities. As much as 25% of some competitive detergents is lost as insoluble material. KREELON delivers full effectiveness!

And a look at the graph shows the amazing solubility of KREELON* through the indicated temperature range. *At 75°C., it is soluble to the extent of 17% by weight* . . . permits concentrated stock solutions!

If you're not getting full value from your detergent in wet-processing operations — if you find a residue in the bottom of your tanks — try a solubility test. Compare your detergent with KREELON!

***Free booklet***

Newly improved KREELON has other benefits, too. Send for 24-page KREELON booklet! And for data on other Wyandotte textile chemicals, or samples, write — *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in Principal Cities.* *REG. U.S. PAT. OFF.

Wyandotte CHEMICALS
FOR TEXTILE PROCESSING

LIGHT METER shows 60 foot candles reflected from dry-cleaned floor, 10 foot candles from scrubbed floor. (Name of customer on request.)

**Because they're DRY CLEANED, with the *TENNANT* Floor Maintenance *System***

Measuring light-reflection with a meter, this mill superintendent finds that his Tennant *dry-cleaned* floors are 500% brighter than adjacent areas (which were scrubbed). In addition dangerous slip-hazards have been decreased, rough spongy surfaces eliminated and average cleaning *time* per square foot has been cut by about 80%.

**Safe Working Conditions Boost Employee Morale!**

Dark, slippery, oil-soaked floors absorb light, cause accidents and lower morale. But with the Tennant System *your floors can quickly be reconditioned* and made clean, dry and bright —real assets to your mill's production.

- ***Restores.*** Removes dark, soft topwood fibers; leaves sound, vigorous surface.
- ***Hardens.*** Seal fills, binds, hardens floor. Makes it bright, durable.
- ***Dry Cleans.*** Eliminates scrubbing! Keeps floors clean, smooth, bright. Fast, convenient, economical.

**WRITE FOR BULLETIN**

**G. H. TENNANT CO.**
2386 N. 2nd Street
MINNEAPOLIS 11, MINNESOTA

Tennant Floor Machines are available for 8", 12" and 16" drum accessories.

*The way to finer floors*
ELIMINATE **TENNANT** SCRUBBING
*Floor Maintenance System*


acts as a warp softener. Thus, the one chemical provides an impressive two-way treatment in a single application, the company claims.

When added in amounts that vary from 8 to 16 lb. of Lektrostat GY to 100 gal. of gelatine size mix, the new anti-static agent caused these results in slashing and weaving applications: Warp ends did not stick to the drying cans; splitting was easier at the splitting bars, with fewer broken ends; warps were woven with fewer shiners; shedding, breakage, over-all loom efficiency, and fabric appearance were greatly improved, Dexter claims.

Lektrostat GY, in contrast with Lektrostat B, the company's first anti-static agent introduced a short time ago, has a pH of 7.2. In addition to its compatibility with gelatine sizes, the new product will also work with anionics under normal conditions. Use of Lektrostat GY has shown no effect upon the shade of whites, nor has it affected the lightfastness of the colors.

The low viscosity of concentrated solutions of the product renders it highly suitable for spray application; and successful use of the product has already been indicated in the blending of raw stock and in garnetting, the maker states.

## Pointers for Supervisors

(*Continued from page 174*)

itself. Here, too, insecurity plays its part. A staff worker obviously is not making cloth. If times get hard, the staff often is the first to be eliminated. What is more natural, therefore, than for a staff worker to show his importance by trying to assume duties belonging to the producers?

### Authority Must Be Defined

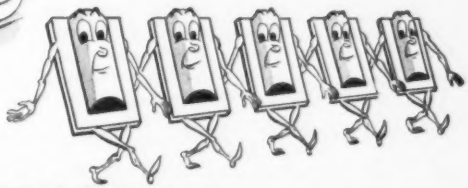
Staff workers also may be blessed with considerable aggressiveness. Such an attribute is excellent if guided right, but all of us have seen aggressive staff workers move in on the retiring type of line officials to take over more and more line duties. It must be confessed, however, that this conflict often occurs because top management has never made clear where the lines of authority and divisions of responsibility really lie. Too often a new staff department is established and its general duties outlined without either the line or staff knowing which responsibilities one has given up or the other has received. Some duties may thus be found floating around like heavenly bodies, having been given up by the line but never having been received by the staff. Other duties and responsibilities will be assumed by both, the line never really having given them up but the staff having taken them too. Only clear manage-

# ERIEZ MAGNETIC ATTRACTIONS

MR. T.I.

ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS

**A MAGNETIC TRIPLE PLAY** is made by seven Burton-Dixie plants with 61 *ERIEZ* Spiked Apron Magnets. Machinery damage, product contamination and fire... all out! Play safe and protect cards and garnetts from damage... you'll score more profits, more production and less maintenance with *ERIEZ* Factory Mutual approved magnets on the job.



**TO KEEP IN STEP** with the most modern developments in the textile industry...that's why the 70-year old Exposition Cotton Mills Co. of Atlanta, Georgia, in its big new expansion program, purchased *ERIEZ* plate-type ATOMagnets for all opener lines. Installed between the distributor aprons and horizontal superior cleaners, the non-electric magnets prevent fires, machinery damage, and product contamination!

**MAGNETIC PROTECTION FOR YOUR TEXTILE PRODUCTS!** This is the subject of a new 6-page bulletin offered by *ERIEZ* Manufacturing Co. It is complete with descriptions and installation drawings of all *ERIEZ* magnetic equipment in cotton, wool and waste applications. If you are troubled with tramp iron, this brochure will tell you how to catch it and save money. Use coupon at right

ERIEZ Manufacturing Company, 501 E. 12th St., Erie, Pa.

My Contamination or Separation Problem is: _____

_____

Please Send Me the *FREE* Textile Bulletin

Name _____ Title _____

Company Name _____

Street _____

City _____ Zone _____ State _____ 52-F

KEEP IT MOVING-

WITH

Fairbanks

HAND TRUCKS

The best trucks made for your materials handling job

THEY'RE TOUGH: steel framed wood chassis for strength and shock absorption.

THEY'RE SMOOTH: available with any type of wheel—Semi-Steel to Vulcanized Rubber Tired, with roller bearings and pressure lubrication—for easy rolling everywhere.

THEY'RE BALANCED: a COMPLETE line providing the right style for your particular material handling requirements.

Series 21 LOCK-WELD Swivel Casters eliminate the greatest cause of caster failure: the king pin.

Fairbanks Steel Framed Platform Trucks take the LOAD off your mind.

Write for your copy of Fairbanks SFT Bulletin for further details on steel framed hand trucks

THE Fairbanks COMPANY

393 LAFAYETTE STREET • NEW YORK 3, N.Y.

Branches: New York 3 • Pittsburgh 22 • Boston 10 • Rome, Ga.

VALVES • DART & PIC UNIONS • TRUCKS • CASTERS

ment policy can untangle and tie down duties and responsibilities.

### Staffs Aids Can Help You

Despite all these difficulties, modern line management prospers as it properly uses staff aids. Let us examine, therefore, some of the more common staff departments to see how you line supervisors can use them best without letting them run your business.

Purchasing is one of the oldest staff functions in any business. In the textile industry, of course, we usually have one department to purchase all supplies except cotton, that material being bought by another part of the staff organization. Obviously, no department supervisor these days could be expected to buy all of his supplies and equipment. It wouldn't be economical, in the first place, because supplies can usually be bought for less in mill-sized quantities. But in the second place, no foreman would have the time to see one-third of the salesmen or study one-tenth of the catalogs that the purchasing department does. Line supervisors, therefore, have eagerly given up their responsibilities to a central purchasing department and have gladly accepted the complicated clerical procedure that purchasing departments have devised for control purposes so long as they can specify types or brands of departmental supplies and equipment.

Yet from time to time, the line organization gives up too much and the staff takes on too much authority. One of the best examples I know of this concerns mimeograph stencils. One type of stencil is liked by all stenographers I have ever known. They can do better work with that type of stencil and do it faster. Yet purchasing departments so often order the other type of stencil because it is cheaper. In this example, the stenographer and the office manager are the producers and should have the right to have the kind of supplies they require for good production. Yet the staff department sometimes forgets its limited staff function. Every supervisor will think of other examples where instead of getting the supplies he needs and wants, he gets what the purchasing department thinks he ought to have.

### Staff Departments May Overstep

At times, such an old-line staff department as accounting will forget its function and start trying to operate the business. No line official can doubt the importance of having records kept nor have any idea of wanting to keep those records himself. The accountants, however, sometimes get the

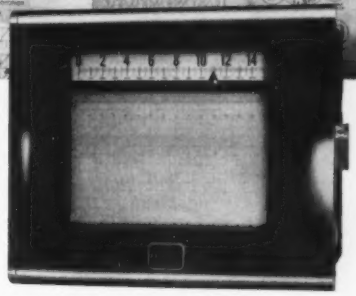


For more information, write direct or use Reader Service post card.

# Instrument Makers CHECKED ✓

## and chose the BRISTOL DYNAMASTER

***Continuous-balancing electronic recorder***



The instrument makers whose advertisements appear above know that their reputations depend upon the accuracy and reliability of their recorders. They select each component part with scrupulous care.

As the recording unit in their instruments, they all selected Bristol's Dynamaster. When you choose the Dynamaster for your own measuring needs you are assured of the same accurate, precise instrumentation demanded by these instrument makers.

***THERE'S A DYNAMASTER FOR EVERY NEED***

Available as a bridge or potentiometer, with strip or circular charts, Dynamasters can measure any variable that can be converted into changes in d-c voltage, d-c current, resistance, or capacitance.

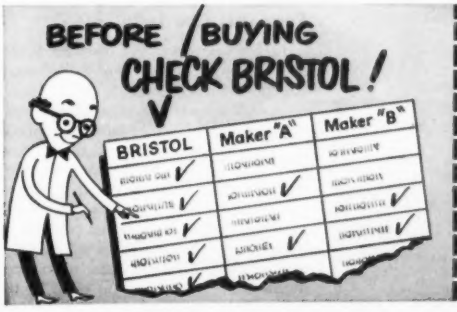
Dynamasters are providing accurate, trouble-free measurement and automatic control of such quantities as temperature, pressure, pH, speed, voltage, power, current, smoke density, strain, and resistance.

# BRISTOL

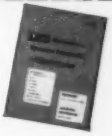
**FOR MORE INFORMATION** *on the uses of this versatile recorder, use the coupon to get Catalog No. P1245.*

*The dependable Guidepost of Industry*

**AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS**




THE BRISTOL COMPANY
103 Bristol Road
Waterbury 20, Conn.



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THOUSANDS KNOW IT PAYS TO RELY ON

Toledo

LEADER IN PIPE TOOLS FOR 50 YEARS

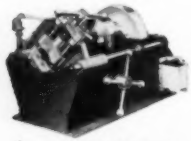
Toledo leadership started a revolution in pipe tools 50 years ago . . . inventing easy-threading tools with receding die segments instead of solid dies.

You've heard it said, "There's no substitute for experience" — and this has a two-way meaning to countless thousands of mechanics who are long-time users of Toledo Pipe Tools.

Experience of the man on the job has shown that Toledos are tools he can trust! Easy handling . . . accurate threading . . . time-saving . . . high production tools that produce *leak-proof joints* and *reduce costs!*

50 years of experience at the Toledo factory keeps the entire line of Toledo Pipe Tools, Power Pipe Machines and Power Drives *steadily improved* . . . always out-front in performance and dependability. May we send you our 50th Anniversary Brochure telling how pipe tools can serve you better? Write . . . The Toledo Pipe Threading Machine Co., Toledo, Ohio. New York Office: 165 Broadway, Room 1310.

Toledo No. 999
2" Power Pipe Machine.



Toledo Simpact,
1" to 2" threader.

TOLEDO

PIPE TOOLS . . . POWER DRIVES . . .
POWER PIPE MACHINES

Factory and General Offices at Toledo.

idea that records are an end in themselves, rather than a means to an end. I once had an accountant tell me, for example, that I couldn't move some furniture to a different office because it was charged to the first office. The temptation exists to make record keeping easier by telling the production people what to do.

Usually the line accepts accounting and purchasing without difficulties. When the more recent staff departments are introduced, however, the break become more noticeable. Consider the standards and the personnel departments. In many organizations the functions and responsibilities of these departments are not clearly set forth. This results in the staff department sometimes assuming line functions and in the line officers resisting the help available to them. This last reaction, of course, may also arise simply because of the newness of these staff functions in the particular company.

### Use Specialists Properly

Nevertheless, the wise line executive will learn to use the aid of these specialists, at the same time appealing to the president to keep the specialist from trying to run production. For example, the standards department of any mill can help the foreman figure the proper work assignments for any job. Even the best guessers among operating personnel have been amazed at the results of time and motion study. Yet because he has always figured he knew how much work a man can do, many a line executive has refused to have anything to do with a standards department, or, if required to do so by higher authority, he has worked grudgingly with the engineers.

Some engineers, to be sure, have not helped any. They have neglected the foreman and have told him how to do his job instead of measuring the way the foreman wants the job done. But unless the two learn to work together, the foreman will miss all the aid that modern science has to offer him through industrial engineering.

### Personnel Can Help

In the same way the foreman must learn to use the services of the personnel department, making sure, however, that the staff remains an aid and not a master. Here again staff experts have taken over some of the duties traditionally done by the foreman. In some instances, the foremen have resented this change and have even refused to put employee records in a central place. In other instances, the personnel department has not kept within the bounds of its staff func-

# CHOSEN FOR PERFECT TENSION CONTROL

- **FOR THE PACIFIC EVENNESS TESTER**

  A machine that tests for the slightest variations in fiber depends upon the most sensitive tension control. That's why the Kidde Compensator was chosen as standard equipment for the Pacific Evenness Tester.

- **BY 500 LEADING TEXTILE MILLS**

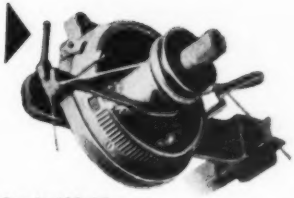
  Tension control is a must on synthetic yarns both for quilling and narrow fabric bobbins; and for warping of fabric-covered rubber yarns. That's why over 500 leading mills have chosen the Kidde Compensator to lick one of the major problems of the textile industry.

Why don't you, too, choose the Kidde Compensator? It's sure to save you spoilage losses from uneven tensions.

For speeds up to 1000 yards per minute, you'll want the Kidde Double Disc Compensator. It comes in two types – 10 to 140 grams and 100 to 300 grams–and is especially suited for tender, high twist yarns.

For average speeds and tensions, you'll want either of the Standard Models – 6 to 120 grams or 100 to 300 grams.

Write today for full information.



Standard Model
6 to 120 grams
100 to 300 grams

**Kidde**

**Walter Kidde & Company, Inc.**
**691 Main Street, Belleville 9, N. J.**

"Buffalo" Tips on Better Pumping

RIGHT SPECIFYING PREVENTS HEADACHES

TELL YOUR PUMP SUPPLIER
Everything About the Job!

**Every pump is designed to perform best under certain conditions. Therefore, your pump supplier needs a complete description of all expected pumping conditions, with your request for a quote.**

This should include:

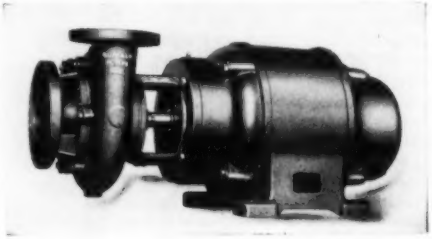
(1) *Description of the liquid:* temperature, corrosive and/or abrasive characteristics, specific gravity, viscosity and vapor pressure under service conditions. Include, if possible, a chemical analysis. This enables the supplier to recommend the right materials, also the right design of pump for the job.

(2) *Capacity—both operating and maximum—in gallons per minute* —so that a pump may be selected within the range of highest efficiency.

(3) *Type of drive (direct or belt), type of driver (engine, turbine, motor) and speed.*

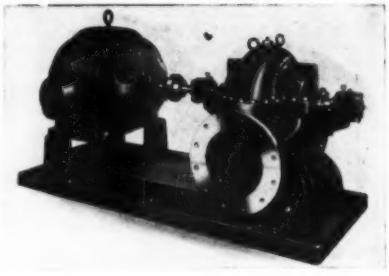
(4) *Discharge pressure or head of liquid to be pumped.*

(5) *Suction lift or suction head.*



Complete information assures getting the right pumps and often enables the manufacturer to suggest an alternative which might be cheaper and more efficient. "Buffalo" engineers will be happy to give you helpful advice on selecting the best pump.

*Close Coupled for close quarters,* this *compact* "Buffalo" Pump is sturdily built for long service. Write for Bulletin 975-B.



*Double suction, hydraulically balanced,* "Buffalo" Type "SL" Clear Water Pumps are widely used in Textile Plants for chilled water, air washer and other clear water service. 10 to 10,000 gpm capacities.

"Buffalo"
BUFFALO PUMPS INC.
181 MORTIMER STREET BUFFALO, NEW YORK
Canada Pumps Ltd., Kitchener, Ont.
*Sales Representatives in all Principal Cities*

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

tions. When our company put in central employment, I assured the foremen that the employment office was not to hire workers but simply to screen applicants and refer the best ones to the foreman. One foreman was skeptical. He had been told that same thing at another place he had worked. When he turned down a worker referred to him by the personnel department, however, he had to give full details and even arguments. At one time, he told me, he had even had to measure a potential weaver to prove to the staff department that the woman could not fit between the looms. Having had an experience like that, it is little wonder our foreman was skeptical.

### It's All One Team

Yet the personnel department can help every supervisor do a better production job. It can keep records, save hours of time in employment, help with training new workers, and look after dozens of details for him. The smart foreman will learn to use these services.

After all is said and done, the line and staff are both on the same team working toward the same end—better goods at lower costs. The staff can help, but no one can take from the foreman his fundamental responsibilities. He has to be responsible for his workers; he has to be responsible for his costs; he has to decide upon methods and quality procedures. These and many other duties cannot be dodged by the line executives. But today modern competitive industry requires the application of many specialists to all important problems. The foreman can't escape his own responsibilities, but he can certainly use gladly and cooperatively all the special help available.

## Wool-Handling Device

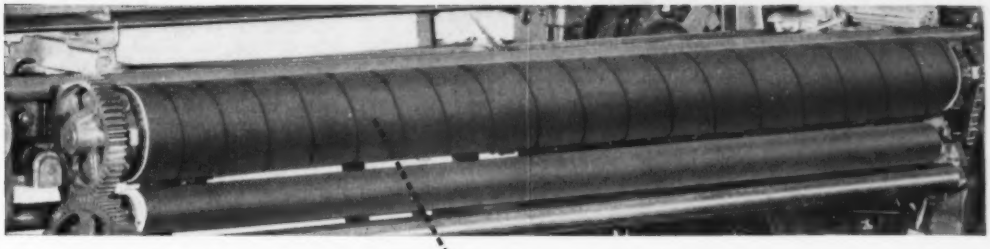
(*Continued from page 125*)

confined area, you'd most likely select a battery-powered truck and would have to think about charging the batteries. In open areas, however, gasoline-powered trucks are usually preferable.

Some of the factors to be considered in selecting the basic truck are:

Bulk and weight of load
Load capacity of the floor
Number of shifts to run
Maximum height of fiber bins
Distance from bin to chute

Initial cost of the truck, complete

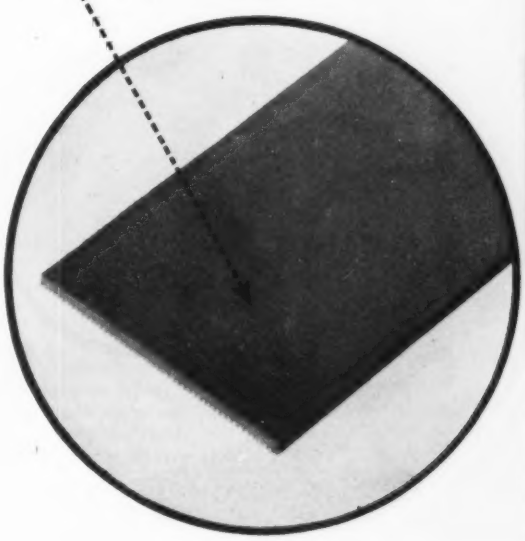


## *This new take-up roll covering is smooth yet has up to twice the holding power*

Here's a take-up roll covering so smooth it won't mark even chiffons or high-count silks. Yet it has up to double the friction you'd expect in a rubber covering material.

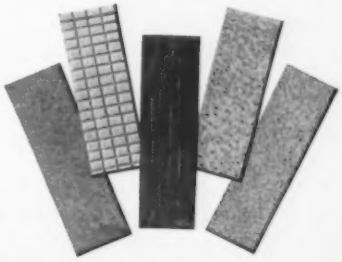
Armstrong's NO-732 is an entirely new roll covering, made from an amazing new synthetic rubber compound backed with a sturdy fabric. You can get NO-732 in widths up to 4 inches, in rolls up to 150 feet long.

Test NO-732 yourself. Feel how smooth it is. Then rub it on any surface: your desk, your clothes, the cloth you weave—and notice the amazing grip it has. For samples and more information, ask your Armstrong representative or your mill supply salesman. Armstrong Cork Company, Textile Products Department, 8306 Arch Street, Lancaster, Pennsylvania.



**ARMSTRONG OFFERS A FULL LINE OF TAKE-UP ROLL COVERINGS**

Whatever your preference, Armstrong can supply a wide choice of take-up roll coverings of synthetic rubber, cork and synthetic, plain or gridded cork.



# ARMSTRONG'S TAKE-UP ROLL COVERS

PRODUCT OF THE ARMSTRONG CORK COMPANY, TEXTILE PRODUCTS DEPARTMENT, LANCASTER, PENNA.

with the wool-handling device, is somewhere between $5,000 and $8,000. If you already have a lift truck to which the device can be attached, you can get the attachment alone for about $2,600.

The wool-handling device is quickly interchangeable with standard forks or bale clamps; so you don't have to set aside one truck for bulk-wool handling alone.

### Four Mills Report Big Savings

The average saving of four large worsted mills that are using this equipment is $400 per week. Two men, with the truck and wool-handling device, have replaced an average of 12 men per shift in each plant. In one plant, the team did what 14 men used to do — and the new method is improving quality as well as reducing costs. Two men with the truck can handle about 100,000 lb. of grease wool in an 8-hr. shift.

The blending setups don't have to be the same, as you can see from the methods at the four mills.

Mill *A*—Wool is sorted into blending bins and transported to chutes that feed the scouring trains.

Mill *B*—Wool is sorted into blending bins on the same floor as the scouring trains. Truck feeds scouring hoppers directly.

Mill *C*—After being sorted into bins, the wool is unloaded onto the floor. Stock is then placed on a conveyor.

Mill *D*—Wool is trapped in the blending bins and unloaded into chutes.

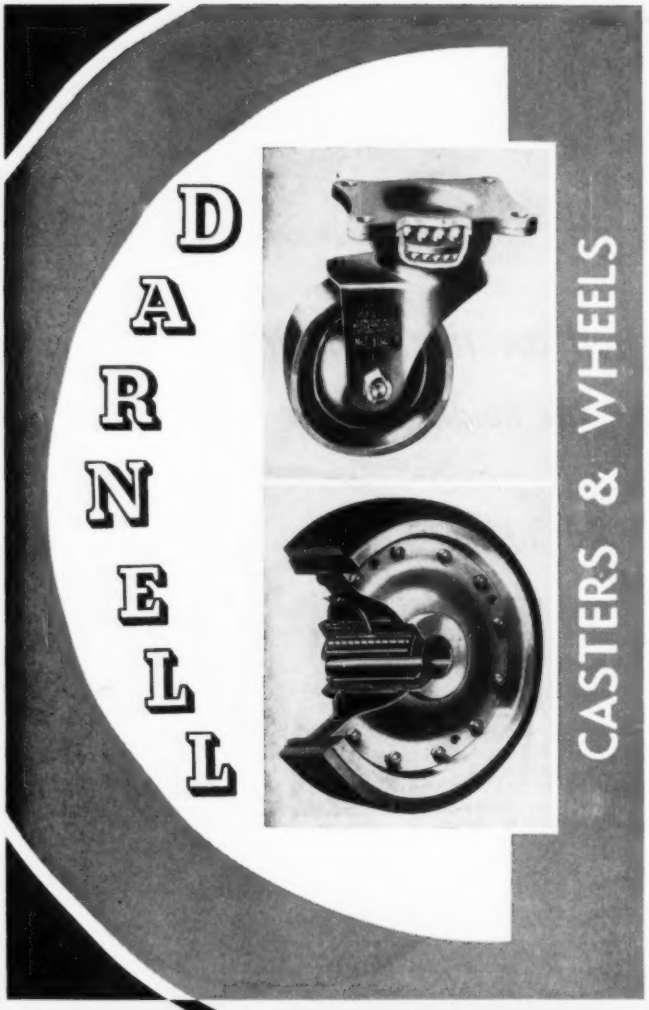
### Why Two Men?

The truck operator needs a helper to direct him, to take care of any spillage, and to make sure that loading and unloading is done smoothly. This second man allows the driver to tend to his main job — operating the truck.

### Advantages—In Brief

One mill superintendent summed up the advantages this way:

"We've cut costs and are saving manpower — that's obvious — but there are some hidden advantages also. Our blends are being maintained better — there's no more rolling wool off the top of the pile. The new gadget is better from a safety angle, too, because it eliminates men working around a hole. Our housekeeping is better — there aren't as many trucks to clutter up alleys and spill wool all over the place. And we can make better use of our floor space now. I guess you've guessed by this time that we're really 'sold' on this improvement."


Save Money. Save Floors. Save Effort. Save Equipment. Save Time and Temper. All these advantages are yours when you install Darnell

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60 Walker Street, New York 13, N.Y.
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# MORE PROOF of Stienen Obermaier leadership

## COMBINATION EXTRACTOR-DRIER*

Substantially reduces labor costs and cuts drying time in more than half.

The "Stienen-Obermaier" Combination High-Speed Extractor-Drier has been perfected after many years of practical research application and has been enthusiastically received by the entire trade. This new system of extracting and drying has cut the total drying time more than half over other systems and has proven a superior method to any other available for package drying. This Combination High-Speed Extractor-Drier can be utilized by even the smallest package dyer to great advantage.

The quick drying time means faster turnover of yarn in the dyehouse, eliminating bottlenecks, and cutting production time in half. This means half the required floor space and half the material carriers.

In actual operation, the material carrier is removed from the dyeing machine and placed in the extractor-drier. For average production, the entire operation is handled in this one machine requiring 1½ to 2 hours. For larger production, the same machine is used for extracting. Additional Port Driers are used to maintain the same high-speed drying results.

Submit your sample package to our laboratory and you shall receive exact data on your type of yarn.

**The only complete laboratory unit made for sample dyeing, extracting and drying.**

- **entirely electrically operated**
- **no steam required**

Stienen Obermaier

**Standard Fabricators**
INCORPORATED

**355 Walton Avenue • New York 51, N. Y.**

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YOU CAN'T OVERLOAD A DANDUX BASKET!

This small, rugged 2½ bu. Dandux basket withstood over 2,000 lbs. of lead shot in actual load tests. Larger baskets are even stronger!

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25 Huntington Ave., Boston 16, Mass. • 121 E. Third St., Charlotte 2, N. C.

THIN BOILING AND TEXTILE STARCHES

Absolutely uniform and dependable. Careful quality control assures maximum performance in your mill.

AT YOUR SERVICE

The Hubinger technical staff and laboratories are widely recognized for their thorough and practical knowledge of the use of starch for textiles. Their experience assures you of the *best* product, *tailor-made* to fit *your specific needs*. Consult us on any production problem—at no obligation, of course.

THE HUBINGER COMPANY

KEOKUK, IOWA • • EST. 1881

## Spun Rayon on C-4 Loom

(*Continued from page 103*)

the whip roll to the breastbeam, the drop wires will dance and keep dirt from forming in the stop-motion stand, and both sides of the open warp shed will be held under a more equal strain.

We like plenty of water in the weave room. Contrary to the general opinion, we find that a high humidity reading helps prevent set marks. Droplets of water near the humidifiers are not objectionable to us since we believe that water lubricates the warp ends. No particular relative humidity reading is desired.

Warp tension is checked regularly by the shift foremen as they pass through the weaver's alleys. The foremen feel the cloth as they walk by; if a warp is tight, they have it loosened. Tight warps are often obvious in the temples when a bow is formed.

Our recently established slashing methods and loom settings have stopped all our spun-rayon-cloth set marks.

## Centralograph at Thor

(*Continued from page 101*)

to the tell-tale recording system, and on investigation found to his happy surprise that frame hands working under the eagle eye of the Centralograph appear to like it fine. "It's all right," one bright French-Canadian employee said, and went on to say how she could always go on record, by dialing the right number on the telephone-like dial located at the head end of the frame, as to why a frame wasn't running.

### No Passing the Buck

At the same time, a system has been worked out whereby spinners, for example, can't blame a fixer unfairly for frame stoppage. A frame might be stopped, let us say, because of incorrect tension, or a broken shaft. The frame hand dials No. 6 on the Centralograph, flags the maintenance man, and takes care of some other aspect of her job.

If the maintenance man arrives on the scene 5 min. later, he dials No. 9 to go on record as to the approximate minute he came to fix that frame. When the frame is repaired and ready to go, he so indicates to the frame hand, dials No. 9 again on the Centralograph for the sake of the record, and goes on his way.

If the frame is started up 10 min.

# What happens when the weather changes?

In the present climate of business, you have to be ready for changes *when they occur.* Our service helps progressive business organizations to take advantage of opportunities . . . to meet unexpected financial requirements without borrowing . . . to devote all their efforts and means to profitable manufacture and sales.

**WILLIAM ISELIN & CO., INC.**

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FOUNDED IN 1808

Bendix-Friez

Suppliers to GOVERNMENT
and INDUSTRY for 76 Years...
to the ARMED FORCES through three wars!

Bendix Friez is part of a great industrial organization whose peace-time potential is being maintained while engaged in vital work for national defense. We are doing our utmost to deliver non-military items such as meteorological instruments, electronic devices, thermistors and a variety of other equipment consistent with our other high priority business.

We invite your inquiries . . . *write Dept. O.*

**FRIEZ INSTRUMENT DIVISION of**
1324 Taylor Avenue • Baltimore 4, Maryland

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Ave., N. Y. 11, N. Y.

17th
SOUTHERN TEXTILE EXPOSITION
October 6-11, 1952
TEXTILE HALL
Greenville, S. C.

An opportunity to become acquainted with the latest developments in machinery, equipment, accessories, supplies, and techniques relating to the textile industry.

For information or room reservations, write Textile Hall Corporation, 322 West Washington Street, Greenville, S. C.

"AN INSTITUTION OF THE TEXTILE INDUSTRY SINCE 1915"

after the second No. 9 is dialed for that frame, the fixer cannot be blamed for the extra delay.

### Mr. Heiburg Plans Ahead

Thor Mills plans to increase the number and types of processing equipment tied into the recording system. As soon as quite an extensive shift in production layout is completed, connections to the system are to be made for one final pin drafter (quad), two Pacific converters, two Whitin long-draft rovers, six new 240-spindle Whitin spinning frames, six Universal No. 10 twisters, and (optionally) two Universal Rotoconers and four Fidelity skein winders.

"This will eventually give us a balanced set-up, we believe," concluded Mr. Heiburg. "Because of being able to tell why our machines keep stopping, we'll be able to catch the shortcomings and watch the improvement on all the new machines, as our help becomes more familiar with them, just as easily as we can now on our Prince-Smith reducer and McGlynn Hays spinning."

## Fabric Coating

(*Continued from page 131*)

able in coating. The tension required for most types of coating, the shrinkage effect of the wetting action of solvents, dispersants, and plasticizers, and the pull that is necessary to carry the cloth through drying and fusing equipment—all contribute to loss of width.

Festoon drying, or drum, or endless-belt support during drying and fusion, will minimize the effect of pull; but other considerations, such as cost and efficiency, must be the primary factors in the selection of the method for this part of the operation. Tenter-frame drying and fusion will return the cloth to near grey width, but clip tenters can only be used to advantage for light-weight coatings such as those used for window shade cloth; while the pin marks from a pin tenter are objectionable for many uses.

Considerable emphasis has been placed on the importance of tension in coating. This emphasis should not be interpreted to indicate that it is desirable to maintain a maximum of stress on the web. Rather, the reverse is the case, for it is essential to keep the pull as low as possible to assist in keeping loss of width at a minimum.

### Badly Engineered Equipment Has Disadvantages

Since most woven fabrics stretch readily without apparent damage, it is possible to coat fabric on crudely

# What's U. S. Rubber doing with spooler sleeves?

Making them of Uscolite, the rubber plastic. This minimizes creel breaks on the warper, thereby preventing wild yarn and knots from occurring in the twister beams and slasher beams, saving time and work.

This remarkable material is exceptionally long-lived and has excellent resistance to chipping around the edges. Uscolite Spooler sleeves are available in both Type A and Type C sizes for Barber Colman spoolers—in 3 colors—blue, gray, brown.

U. S. Rubber's line of textile mill specialties is the largest and most extensive in the industry. The use of these textile specialties *reduces* cost, *increases* product quality. Write for full information without delay to address below.

PRODUCT OF

U.S.RUBBER
SERVING THROUGH SCIENCE

**UNITED STATES RUBBER COMPANY**

**MECHANICAL GOODS DIVISION · ROCKEFELLER CENTER, NEW YORK 20, N. Y.**

**EIGHT-ROLL VERTICAL BRUSHER**

**Showing Exhaust Fan**

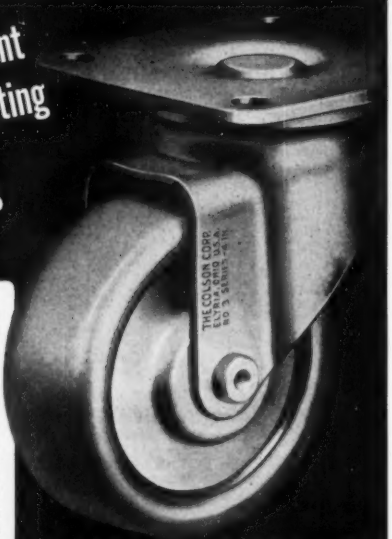
The illustration above shows a Vertical Brushing Machine with eight cleaning rolls, individual dust chutes, hoppers, and exhaust fan. It can be used to give a considerable increase to the brushing capacity of present equipment, and can be run in connection with a Horizontal Brusher.

A recent development in our Vertical Brushing Machines is the quick adjustment for the cleaning rolls. This makes it possible to change almost instantly to light from heavy brushing, or vice versa. This can be applied to either our Six-Roll Brushing Machine, or the Eight-Roll.

Send for Bulletin No. 336

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS

Speed Up
Your Old Equipment
with New Load-Floating
Colson Casters




Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.

Model 3-427-16 with thread guards, designed especially for the Textile Industry.

*Write Today For Free 68 Page Catalog*

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

constructed equipment, and much has been so coated. In such cases, rolls that are out of line and other irregularities typical of such machinery are compensated for to a certain extent by this stretching characteristic.

On the other hand, it is desirable and profitable to install carefully engineered and precisely constructed machinery, for more uniform coatings and a higher percentage of first quality production are sure to result. Antifriction bearings are worth while, for they assist in maintaining the width of the fabric by reducing the drag, as well as permitting a more uniform control of tension.

In solution coating, where multiple coats are necessary to achieve weight, some of the irregularities resulting from the use of crude equipment, such as uneven coating across the piece, could be corrected to some extent by reversing the roll between coats. But in the application of organisols and plastisols, where the required weight is often obtained in one or two coats, this practice does not have practical application.

### Watch Out for Static Electricity

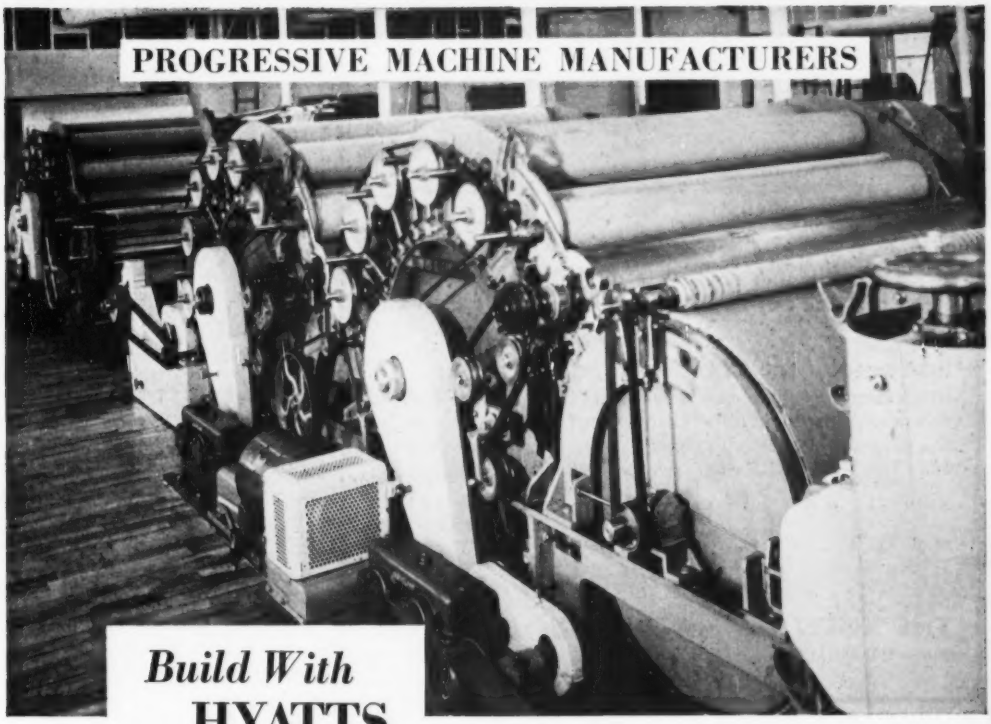
The elimination and control of static electricity are points which must never be overlooked in selecting and installing equipment for coating. The movement of cloth over rolls and bars, and even through the coating head, creates ideal conditions for the generation and build-up of a static charge. This can establish an extra hazard, particularly in periods of low humidity when the static generated is not rapidly discharged into the atmosphere, if any organic solvents or diluents are employed.

The discharge of accumulated static can create a spark of sufficient intensity to set fire to the volatile solvents of the coating compound or cause an explosion in any confined area, if the vapor concentrations are between the upper and lower limits of flammability. In addition, static-charged fabric will pick up dust, lint, threads, and other foreign material that will cause scratches and defects in the coating. It is also indicated that, under certain conditions, static can raise the nap of the fabric just before it reaches the coating head, and this situation may cause roughness of the coating, particularly if it is light in weight.

### Explosions Are Preventable

The proper grounding of all rolls and machinery is primarily a problem of installation, but the selection of sufficient suitable static eliminators is a definite part of the procurement program.

It is desirable to install an elimi-




## *Build With* HYATTS

The Davis & Furber Machine Company has found that Hyatt-equipped machines last longer, produce more and better sliver and yarn. Cost of lubrication has been drastically reduced because very little is required at infrequent intervals. Sealed housings keep grease in the bearings, dust and dirt out.

Like all other Davis & Furber wool preparatory machines, the Model "L" Woolen Card is equipped with Hyatt Roller Bearings including the worker and stripper rolls. Because this card and its condenser are equipped with almost 200 Hyatt Roller Bearings they start up smoother, operate easier with less power consumption, and require no bearing "break-in" period.

Progressive builders of textile machines choose Hyatts for dependable bearing performance. Be sure that Hyatt Roller Bearings are in your equipment. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

**HYATT ROLLER BEARINGS**

THE KNITTING MACHINE & SUPPLY CO.—

*Present!*

STOLL KNITTING MACHINES

FOR BETTER GRADES OF KNITTED OUTERWEAR

High speed narrow border machine.

•

Full automatic single and double lock purl and jacquard machines.

•

Modern flat and links/links hand machines with improved pattern possibilities.

• • •

HIGH SPEED MODERN FLAT SINGLE LOCK POWER MACHINE—ideally adapted for the manufacture of fancy trimmings—scalloped collars, rib bottoms and cuffs—so important for the manufacturers of fine gauge Sweaters on full fashioned or circular machines—REMEMBER "THE TRIMMINGS MAKE THE SWEATER".

**MODEL J BOM/b** is a fully automatic flat power machine with 4 bars, 12 carriers for sectional work operating at 15 full courses in fine gauges over 60" needle bed space with high and low butt needles.

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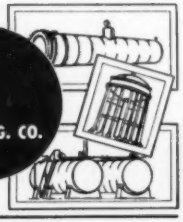

nator to discharge any static that may be created as the web is unwound from the feed roll and to install another directly in front of the coating head. If solvents are to be used, an eliminator should be installed to insure discharge of static before the web enters the drying oven. Good grounding is sufficient at other points in most cases.

Several types of eliminators are commercially available. Some are, no doubt, more efficient than others, but any device that can be maintained in continuous contact with the surface of the web is suitable. The use of wires, tinsels, and foils is not recommended because it is difficult to insure continuous contact with them.

All wiring and lighting should be vapor proof; and explosion-proof motors should be installed, particularly in the case of a new installation, even though the use of flammable materials is not currently contemplated. New developments in raw materials, or in the product to be manufactured, might make the use of solvent desirable, and the unit would thus be suitable for the new purpose. In addition, the vapors given off in the fusion operation will gradually soften and deteriorate most materials used for insulation in electrical work; so its is highly desirable to protect such equipment from these vapors.

### Choose Machinery Judiciously

There are available so many different types of coating heads, as well as auxiliary equipment for delivering the cloth to them, that selection of the most suitable and efficient machinery is very difficult. This is particularly true in organizations with little or no available experience in coating. Such factors as the type and variety of fabrics to be coated; the kind of coating materials to be used; the weight and finish required; the volume of production contemplated; the possibilities of future expansion, both in quantity and diversity; the comparative efficiency of the equipment; the cost of operation of the installation; the amount of investing justified from the point of view of probable returns; and the capital available for the project —all must be considered in making the selection.

The equipment manufacturers and raw-material suppliers have engineers and technicians available who are well versed in the ramifications of the art of coating. Their recommendations and advice should be invaluable. In addition, these same manufacturers and suppliers have a variety of experimental coating equipment of the laboratory and semi-plant type that is usually available to a customer or prospect.

Test runs on the various types of

# SARGENT'S *All-job, All-fibre, Single process*

## WET-and-DRY PICKER

Opens and picks dry rayon staple fibre as easily and efficiently as it handles wet cotton fibre after bleaching and extracting, prior to drying. Delivers soft, lofty, thoroughly mixed clean fibres; Sargent-designed for maximum, continuous, trouble-free production. Extremely rugged construction insures even, fast picking and beating operations without vibration. Feed apron may be equipped to handle maximum-height feed loads.

*Built in widths 18 to 72 inches.*

*Production 600 to 1,000 pounds per hour.*

SARGENT'S AUTOMATIC FEEDER
*Model N — recommended for continuous, even feeding with the Wet-and-Dry Picker, to maintain production capacity.*

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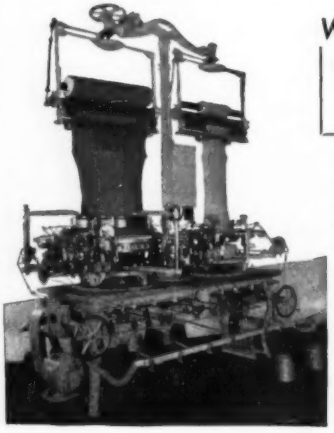

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This new data sheet gives you the kind of cost, production and quality information you've been looking for—it shows actual machine comparisons with the NEW TOMPKINS D-2 DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE shown here. The subjects covered include: Fabric Flexibility; Perfect Rolls of Cloth; Needle Breakage Reduced One-Half; and Needle Savings!

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coating heads available will give a good indication of their particular applicability for obtaining the desired coating.

The equipment for drying and fusing, the possibilities of embossing plastisols or organisols in tandem with the fusion operation, the machinery needed, and the various methods of cooling and wind-out will be considered in the next article.

---

## Low-Voltage Switchgear

(*Continued from page 128*)

ings of the transformers) by dividing the total kva. of the transformer bank by the percent impedance of the transformer, expressed as a decimal. This calculation also provides data in terms of symmetrical values.

In selecting the proper interrupting ability of switchgear to handle conditions at the point under consideration, we must consider the assymmetrical values possible. Fortunately, NEMA has made this easy for us. By considering the conditions including the DC component, they come up with a factor 1.25. Multiply the symmetrical values provided by the power company, or calculated by you, by 1.25 to obtain the assymetrical value.

### Don't Forget Motors

There is still another factor to consider in determining the interrupting-capacity requirements. At the time of a short circuit, rotating equipment connected to the lines act as generators and contribute to the short-circuit current.

In our case, we have no generators as such; only induction motors and a few synchronous motors in places. Synchronous motors contribute a bit more than induction motors; but since most of our load is induction motors, we can consider them as the entire group.

The accepted best practice is to use the total transformer kva. For induction motors, consider that five times the transformer-bank rating will be the total contribution in kva. from this source. We should consider the transformer bank loaded because it may sometime, if not now, be loaded.

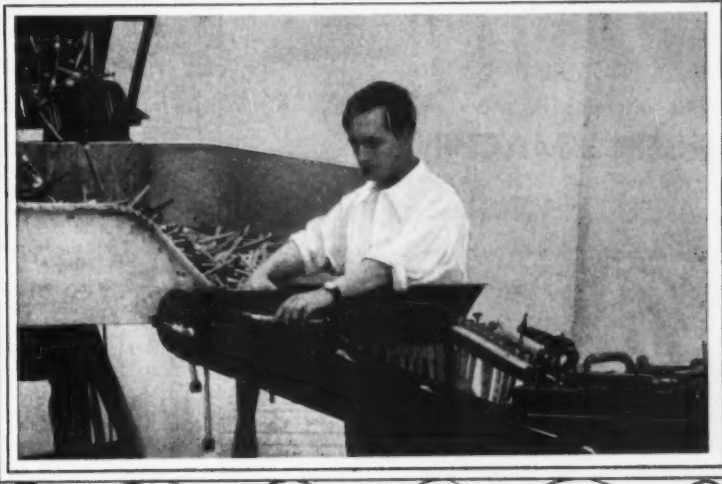
### We Consider All These Factors

Therefore, we consider in our selection of the switchgear equipment the following factors for the incoming-line breaker:

1. Symmetrical value of short circuit kva.
2. 25% additional to provide for assymetrical value, including the DC

# PICTURE OF A MILL MAN

# *Saving Money*



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***He is***

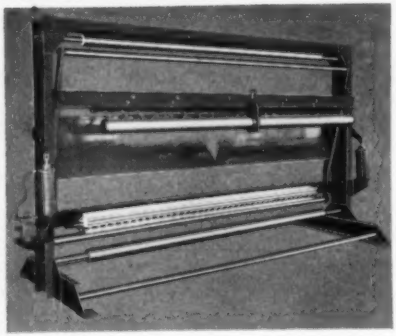
- SAVING LABOR COSTS
- ELIMINATING BOBBIN DAMAGE
- REDUCING SECONDS IN CLOTH
- CUTTING MAINTENANCE COSTS
- REDUCING HANDLING EXPENSE
- SPEEDING PRODUCTION

Terrell's versatile Type L Quill Cleaner has introduced important savings in removing wool, worsted, spun rayon, continuous filament, and most cotton waste from automatic loom bobbins.

To assure greatest savings, call on Terrell quill-cleaning specialists for an appraisal of your bobbin cleaning and handling problems.

# THE TERRELL MACHINE COMPANY, Inc.

**CHARLOTTE, NORTH CAROLINA**



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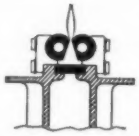
**I.H.E. SINGEING MACHINE**

This heavy duty machine singes closely and uniformly on either or both sides of the cloth in a single pass. Operates at speeds from 25 to 300 ypm, depending on type and weight of fabric. Electric and air-powered mechanism cuts off burners and lifts cloth away automatically when cloth speed drops below a predetermined level, or stops. Burns oil or gas. Write for details and specifications today.



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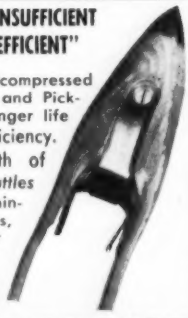

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**PICKER STICKS** featuring greater resistance to shock and wearability with a high resilience reduces breakage costs and increases production.
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. . . and clipped pertinent ideas, articles and advertisements for reference, *please do not burn or throw it away.*

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1) Wastepaper can help to swell the funds of your local Boy Scout Troop, your church or other community organization. It gets a good price these days.

2) Whether in magazine form or not, wastepaper helps to fill the increasing need for paper pulp brought on by the mobilization effort.

Collect it. Give it to your favorite organization. Chances are they have scheduled pickups.


component as recommended by NEMA.

3. Rotating machine contribution.

4. Sufficient margin to allow for changes in the system and to provide greater short-circuit kva., such as larger or nearer generating capacity, larger or nearer transformers, or larger lines.

With all these factors considered, the proper selection of a main incoming-line breaker may be accomplished.

The manufacturer's recommendation as to feeder breakers may be accepted. If breakers are operated in cascade arrangement, considerable savings can be made in first cost and reliable operation secured. In this case, feeders with lower interrupting rating may be used, backed up by an incoming-line breaker of adequate interrupting capacity.

For example, with an incoming-line breaker of 100,000 amp., 50,000 amp. feeder breakers may be used. Proper adjustment in both time and current settings of the overload devices is essential for proper coordinated operation. Dual magnetic trips on feeder breakers and very inverse-type induction relays on the main incoming-line breaker give most acceptable adjustments, based on experience in operation.

Mills with obsolete protective equipment should use the above data in making a survey of their power systems. Plans should then be made for replacing the old switchgear with modern switchgear of metal-clad construction, indoor or outdoor, with draw-out air circuit breakers.

**Where to Locate Switchgear—**

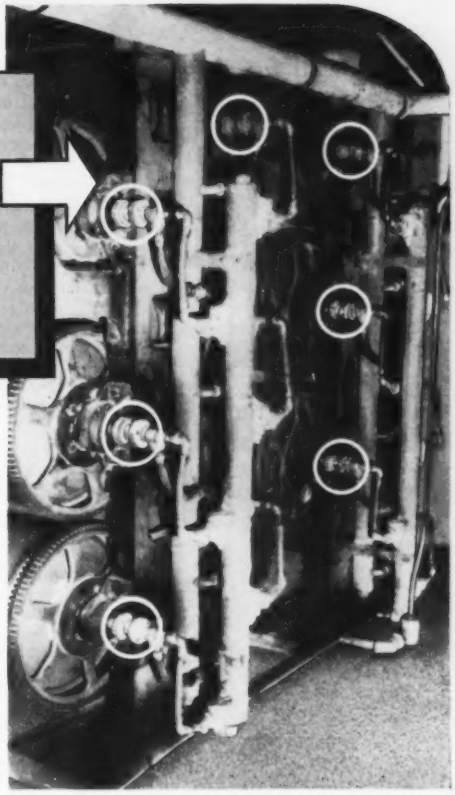
The future location of a new switchgear should be as carefully selected as the gear's protective ability. As we all know, the atmosphere of a textile mill is not the best for the operation of electrical equipment. With the ever-present threat of fire and the presence of sprinklers, it is mandatory, from the viewpoint of insurance companies and for continuity of service, that switchgear be installed in fireproof and waterproof rooms.

It is usually impossible to use the existing switchroom in replacing old switchgear because of service interruption during installation and the fact that old rooms are not usually fireproofed or waterproofed. With space inside the mills at a premium and construction costs high, finding or building more space is usually out of the question. Also, the present switchroom space could be used for textile processes.

**—Outdoors?**

With these things in mind, mill

# "Barco Revolving Joints give us the PERFORMANCE we want on dry can ranges!"

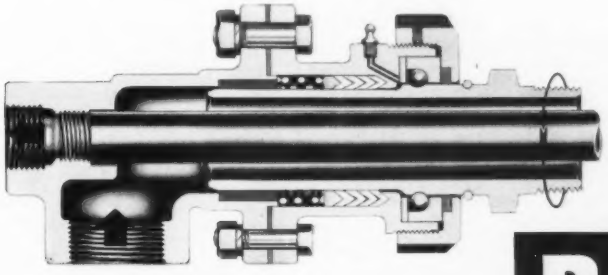


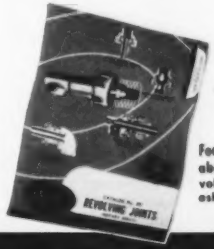
This photograph shows Type IBR Barco Joints installed on a range of 12 dry cans in a prominent southern textile mill.

## *Says* CHIEF ENGINEER in this Southern Mill

■ Operating engineers throughout the country are reporting the benefits they receive from Barco's new *improved* Type IBR Revolving Joints. These are benefits that come from the *correctness* of Barco's design. There is minimum increase in torque (friction) under increased steam pressure—thanks to Barco's exclusive "CTR" V-type seal rings and ball bearings. Also note the wide spacing between bearings which holds bearing loads and wear to a minimum.

Barco builds a complete line of standard revolving joints in sizes ranging from ½" to 2" and special in sizes to 5". Pressures to 250 psi, steam, or 1000 psi, hydraulic. Speeds to 2500 rpm. *Barco Engineers are at your service; ask for recommendations.*






For information about Barco Revolving Joints, ask for Bulletin 300.

- Better Temperature Control where steam is used for heating rolls due to better circulation.
- Free-Floating, Low Torque Installations.
- Up to 50% Power Savings.
- Exclusive "CTR" V-Type Seal Rings—*chemically inert.*
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# BARCO *Revolving* JOINTS

For Textile Machine Dryers, Slashers, Dry Cans, Sanforizers

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management should consider the selection of outdoor metal-clad switchgear. Placing switchgear outdoors will free all inside space; eliminate fire hazards, lint conditions, and possible water conditions; and make the equipment more accessible and reliable.

### —Indoors?

Where there is no space available between the substation and the mill for locating the switchgear, or where the distance between the switchgear and the mill is too great for running individual feeders, indoor metal-clad draw-out air circuit-breaker equipment should be used. In other instances, indoor air circuit breakers may already be installed. With or without corrections, this equipment can be used with a minimum of expense. Sometimes the mill's preference will be for indoor switchgear.

### Keep These Installation Points in Mind—

There is little technical difference in installing an indoor or outdoor switchgear. The connections between the substation and switchgear and between the switchgear and existing mill feeder lines differ only in length, with possibly a different type of wire being necessary for underground feeder lines.

The only construction necessary for the installation of outdoor switchgear equipment is a foundation on which the switchgear will set. The platform may be a slab of concrete on the ground or a platform.

### —The Platform

The height of the platform is governed by the amount of water that can be expected to rise during rainy seasons or the amount of work that is to be done under it.

The size of the foundation is determined by the size of the switchgear plus the manufacturer's recommended minimum clearances for door opening in the rear, walking space at the ends, and door opening and removal of the draw-out breakers in front. Additional space at one end should be allowed for adding feeder breaker sections as the load grows.

### —Incoming Line

The incoming power may come directly from the substation bus to the roof-entrance bushings on the switchgear. This connection can be made with cables, flat bars, or tubing, either round or square. It should be capable of carrying the capacity of the substation, plus a margin for expansion. Lightning protection should be incorporated in the switchgear on the in-

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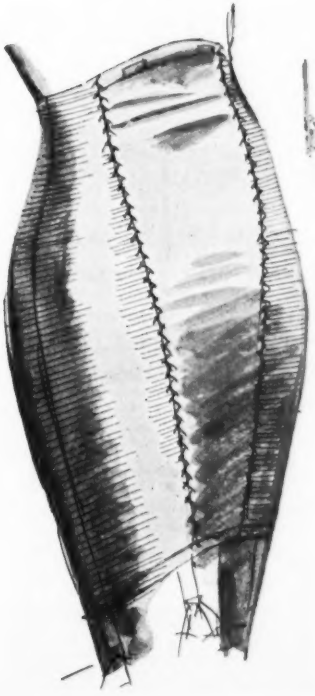
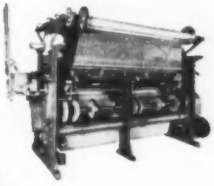
The *Kidde* Knitter can *sustain* these high speeds because it is ruggedly built to absorb the strains of elastic. The power let-down for controlling the rubber beams is non-electric, reliable in action. The needle bar motion is specially designed for speed with heavy loads.

Use the *Kidde* Knitter to cut your knitting cost on elastic fabric. See for yourself the advantages that have made it the most popular Raschel machine in the trade.





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coming line to protect the mill power system.

**—Feeder Lines**

The feeder lines should be in conduit, with wire capacity for the rated safe load of the feeder breakers. Conduit can exit through the top or bottom, and specifications should include which is desired, although most outdoor switchgear is arranged with one hole with a bolted cover plate in the bottom rear of each feeder section.

**—Conduit Fittings**

Water-tight conduit fittings are required for outlets through the top and should be furnished with the switchgear. The overhead conduit lines should be protected from the sun and weather by a roof over all that is exposed. Unless protected in this manner, the temperature inside the conduit will exceed safe limits for the wire. Underground conduit should be coated with asphalt or tar for protection against harmful elements that may be in the soil.

Outdoor switchgear installed near the substation and painted with aluminum paint presents a pleasing appearance. With electricity definitely a part of mill operation, the outside power-supply structures blend in with modern mill design.

**Answers To Some of Your Questions**

*How do you keep moisture out of the equipment and lines?*

We keep moisture from condensing on our switchgear by using the heaters provided with the enclosed outdoor switchgear. This heat is particularly necessary on cold or even on cool days.

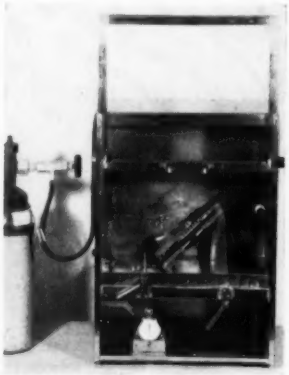
For underground lines from the switchgear to the mill we use a cable that will stand immersion in water. We put it in conduit for mechanical protection, particularly so that in any future excavation the cable will not be damaged.

We also seal each end of the conduit with duxseal. There is a decided draft from the mill to the outside because of the air-changing system, and use of sealed conduit keeps this moisture-laden air out of the conduit and the switchgear.

When we use overhead lines from switchgear to mill, we use varnish cambric cable in the conduit. We also seal the mill end of the conduit and, of course, slope the conduit, which enters at the top of the back compartments of the outdoor switchgear. We cover the overhead conduit by means

**FLAMMABILITY TESTER**

***For measurement of Flammability in accordance with AATCC methods***



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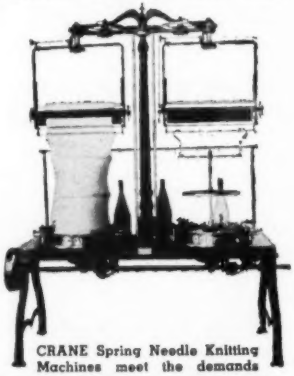
**SPRING NEEDLE KNITTING MACHINES**

***Speed - Quality - Low Cost***



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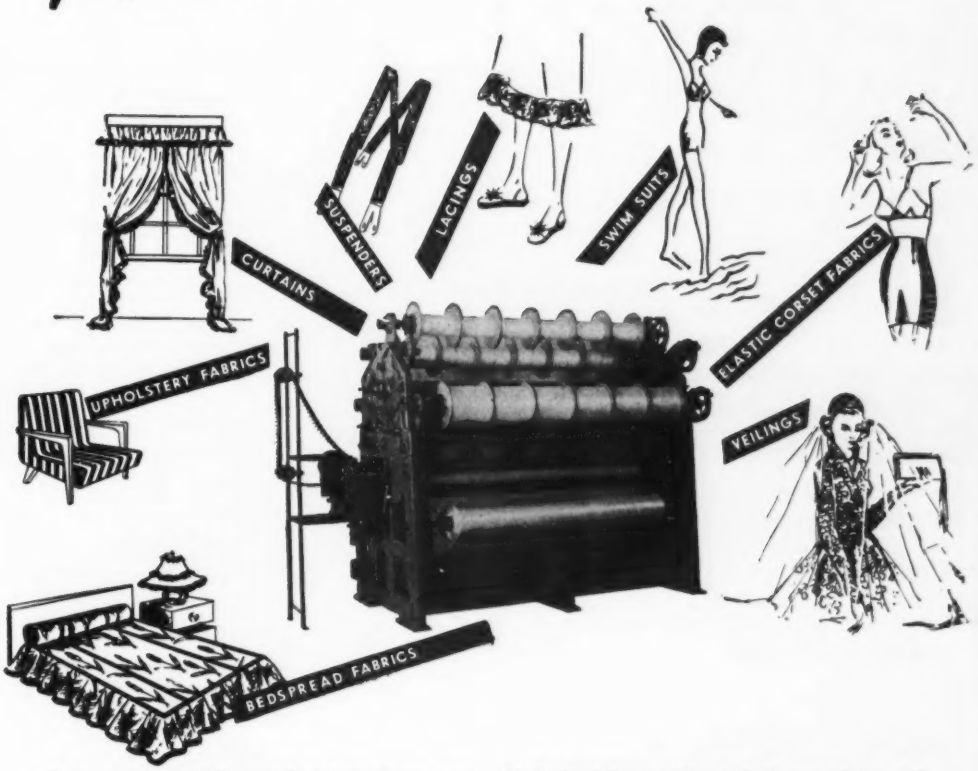
# *A Variable and Profitable Producer* REINER KAYLOOM




**Turns out, with high speed and precision, merchandise that resembles either woven goods or knitted fabrics, for purposes as different as lacings, veilings, netting, and upholstery.**

**Pattern control in this Reiner Kayloom makes possible designs that include fillingwise or warpwise stripes, plaids, diagonal or square checks, and other effects, in a limitless variety.**

**Model A of this machine is built as a plain single needle bar special purpose knitting machine. Model B employs a warp and filling. Both models are equipped with latch needles and can use up to five guide bars.**

**In the warp knit line, Reiner manufactures Tricot Machines, Simplex Machines, Raschel Machines, also Creels and Warpers for all requirements.**

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Anti-Static
Treatment for
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DACRON BOWS TO LEKTROSTAT
Lektrostat B is the first anti-static chemical substantive to Dacron. 2%-3% of Lektrostat B, applied by exhaustion after dyeing, or by padding or spraying, effectively reduces static on Dacron and produces a definite softness—without affecting the color or the lightfastness of the dyestuffs. Samples and data on request.
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P. O. BOX 1, BLVD. STA. NEW YORK 59

Weave Mills
that require
PAPER FILLING
Rely on
LAZENBY WINDERS
For hard or soft twist, crushed or paper ribbon, we can supply Cop & Bobbin Winders to produce maximum yardage & uniformity.
Send us a small supply of your paper and we will wind & return with Test-Wind Report and Catalog.
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of a light roof to protect it from the sun's heat.

*How do you make your connections inside the mill?*

We make our cable connections at the end of the underground conduit, when we change from water-resisting cable to varnish cambric cable, in a steel connection box. We use regular electrical tape, mostly varnish cambric, to provide good electrical insulation. We then cover the taping at the joints with asbestos roll board insulation, $\frac{1}{8}$ in. thick and 2 in. wide, wrapped around the joint. This joint is then covered with a half-lap wrapping of a flexible woven-asbestos tape called "asbestica".

We did not use water glass to cement the outside covering because we found that we could make a tight covering with the "asbestica."

*Why did you limit connections per box to three?*

We had nine joints to make in our connections—switchgear to mill circuits. We limited the connections in a steel box to three to limit the hazard. We felt that the joints, as we made them, would not give trouble, which feeling has since been justified by operation. However, we played safe by not placing all nine connections in a single box.

*What sort of waterproofing did you use for the underground conduit?*

We covered our underground conduit with asphalt paint to protect against corrosion. We also back filled the excavation with clay rather than with dirt with a high organic content. We avoided using any soil with cinder content to eliminate any sulphur content, which is hard on buried steel conduit.

## Sewage Problems

(*Continued from page 151*)

From these results it was recommended that the plant be designed for a capacity of 4,800,000 gal. per day and for biological treatment (biofilters), to be preceded by alum coagulation and sedimentation basins. It was also recommended that the plant be designed to provide for low B.O.D. loadings on the biological-treatment units to reduce the chlorine demand to a more suitable value before chlorination. In the case of trickling filters this would require that ample recirculation be provided.

A combined sewage and textile dye

TEXTILE PROCESS ENGINEERS INC.
TPE
Specialists in technical and management controls with a 14-point survey which includes such important factors as:
1. Plant Layout
2. Checking Machine Capacities
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Our business is to improve mill profits. Satisfactory results guaranteed. Client references upon request.
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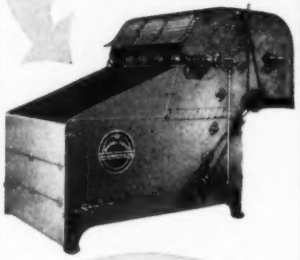
"WHEN YOU THINK OF FEEDERS-



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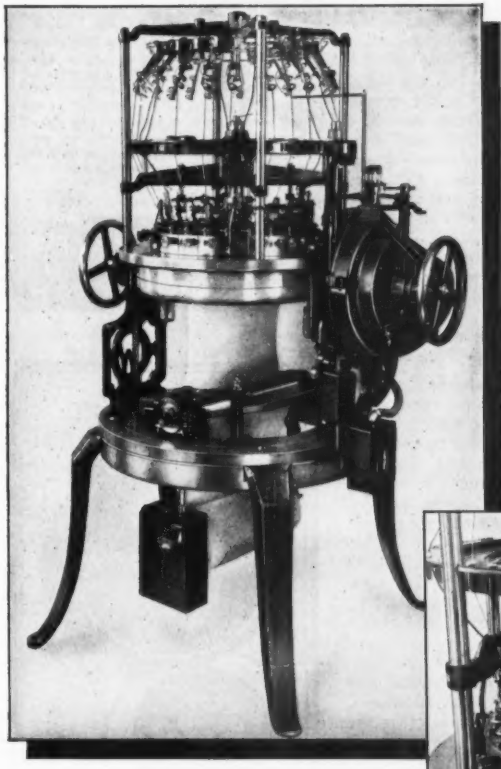
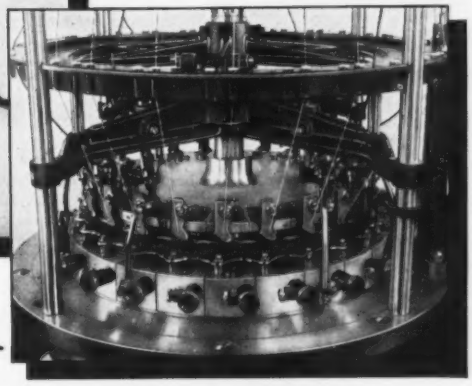


## The WILDMAN MULTIPLE-FEED RIB MACHINE is YOUR BUY NOW!

✓ Check these production advantages:

Increased production for unit floor space . . . Increased production for small additional power consumption . . . Depth of pattern is greater where a different colored or type of yarn is used in relation to other yarns . . . Cone holders arranged so that the tail or last part of the yarn on a cone is tied to the beginning of the new cone — the machine thus is not stopped at the exhaustion of first package but continues operating from new package.



**WILDMAN**

**MANUFACTURING COMPANY**

*NORRISTOWN — PENNSYLVANIA*

**Norris Shuttle Binders are the product of many years experience in making wood parts for looms. Made of specially selected hickory, faced with top grade cowhide, and individually hand finished to give superior service. Available in styles for every loom and every type of operation. Order a supply today.**

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GREENVILLE, S. C.

*Manufacturers of Super-Stroke Sweep and Picker Sticks*


waste with a color like black ink, with a chlorine demand and 5-day B.O.D. of over 2 tons a day has been treated by a combination of chemical and biological means to give an effluent that has the appearance of drinking water and a chlorine demand of about three-fourths of a ton per day that can be easily handled in chlorination basins.

This procedure, with modifications, can be used by any mill to benefit the community in which it operates.

---

## National Weaving Co.

(*Continued from page 118*)

The lowest possible amount of tension on the section-beam creel is advisable. Always use self-aligning ball bearings on beam arbors. Pull the beams against live weights. Use the normal pressure on the loom-beam density.

The ends should be leased on a 50-50 lease and leased as quickly as possible. When the slasher is stopped during production, the heat should be turned off and the slasher restarted as quickly as possible.

We use Johnson and Cocker slashers. Other multicylinder slashers could be used with good results.

### Keep the Throwing and Winding Machinery Polished

In both throwing and winding, the cases of yarns should be opened and left for 24 hr. at 65% relative humidity at 80 to 82° F. room temperature.

The guides, flyers, and other surfaces that the yarns touch in winding and in up-twisting should be constantly checked for rough places that will damage the yarns.

In spool winding, we use the most open wind possible on Sipp-Eastwood automatic spoolers.

In up-twisting, we use the closest wind possible.

We use 1-lb. packages on Atwood, Fletcher, and Universal twisters and 1½-lb. packages on Unirail up-twisters.

Five percent more tension than the standard amount that is used for denier requirements in winding should be used on Bemberg yarns. A five or seven wind, with a 7, 9, or 11 traverse wheel can be used. The stroke should be of 1⅞ to 1¾ in. in length.

Conditioning is important in winding Bembergs. Too much humidity should be avoided. An instrument reading of 150° dry bulb and 130° wet bulb is ideal. Conditioning should be a rapid process, since little time is needed to set twisted yarns.

### Six Types of Looms Are Used

No unusual loom settings are used

NEWEST
Anti-Static Treatment for Synthetics
dextrol
LEKTROSTAT®
GELATINE SIZE and LEKTROSTAT GY
LEKTROSTAT GY, newest of the Dextrol LEKTROSTAT anti-static agents . . . is handtailored for use with Gelatine size mixes for sizing acetate, nylon and other synthetic fibers. In the size mix, LEKTROSTAT GY not only reduces static on fibers, but also acts as a warp softener. These properties are combined to give you real savings and improvement in your weaving. Write for sample today.
Give us your problem . . . write
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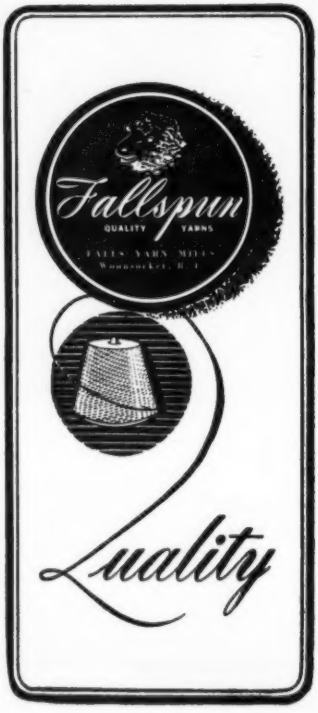
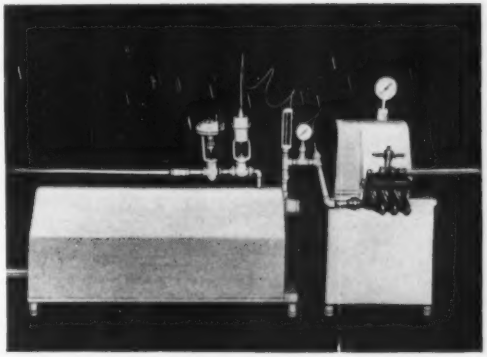


# Continuous size preparation and increased loom efficiency with the new



# Scott & Williams Hydropulse

**What the Hydropulse is:** like many important developments, this unit is basically quite simple in design. It consists of a heat exchanger for heating cold starch mixes to the swelling point, and a high pressure homogenizer to convert the mixes into finished size of controlled viscosity.

**What it can do for YOU:** the Hydropulse will give you *continuous size preparation*. Costly batch methods have been completely eliminated. You get fresh size at the push of a button.

**In addition to increased weaving efficiency you get:** savings on starch costs, savings on steam costs and better process control. You can be sure of all these benefits because the Hydropulse is specifically designed for textile use by a company that has specialized in textile machinery for over 80 years...Scott & Williams, Inc.

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**For more information:** write today to one of the addresses below.

*PIONEER DIVISION*

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SALES AGENTS:

SOUTHERN SIZING COMPANY, East Point, Georgia

BRYANT CHEMICAL CORP.,
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For materials handling equipment specify C-D-F Vulcanized Fibre receptacles. Nothing beats fibre for economy and long life.

Material is tough and mar resistant. Trays, boxes, baskets, cans, barrels. C-D-F builds them all from light, sturdy fibre. You move materials, not useless weight.

**LOOM PARTS—ALL NON-METALLIC!**

Vulcanized Fibre bushings, washers, binder pins. Fibre cloth roll bearing blocks. Special parts that C-D-F accurately machines. Order by original part number and maker, or send us the old part.

C-D-F's new Southern warehouse is located at Spartanburg, S.C. Celoron gear stock always immediately available. Phone: Spartanburg 3-6397.

***WRITE NOW!*** Write Textile Section, C-D-F, for catalogs showing Vulcanized Fibre receptacles, Dilecto laminated plastic materials, Celoron silent gear stock . . . all made by C-D-F to save you money. *Free 64-page booklet on machining plastics will be included!*

CDF *Continental-Diamond Fibre Company*

NEWARK, 55, DELAWARE

# Sterling Ring Travelers

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Do you realize just how many thousands of sizes and styles of Ring Travelers we carry in Stock?

Are you using the one best fitted to your requirements?

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J. S. Furtado Box 903 Fall River, Mass.

**STERLING RING TRAVELER CO.**
**FALL RIVER, MASS.**


to weave Bemberg yarns. For example, on XK cam looms we use these settings:

1. Set a straight warp line.
2. Set the whiproll follower cam at the highest point at the beat-up of the cloth.
3. Level the harnesses ⅛ in. past the fell on the cloth on center-fork looms.
4. Set the warp shed ⅛ in. over the shuttle when the lay is on back center.
5. Set the harnesses 5/32 to 7/32 in. over the raceplate cover when the lay is on back center.
6. Use 8-in. bobbins.

On S-6 looms, we use a 9-in. bobbin on 60 turns of S and Z twist filling with a 1 7/16-in.-diameter bobbin. Settings on this construction of fabric are the same that we use on French crepes. The workloads for loomfixers and weavers on this style of cloth are competitive to the work-loads on all other types of yarn.

The weave-room temperature should be kept at 82 to 84° F. and at 66 to 68% relative humidity.

We have C&K S-3, S-5, and S-6 looms and Draper XK-cam, XK-dobby, and XD-dobby looms.

### Cloth Is Graded-A-B

Regular cloth-room procedure is used to inspect and grade the woven cloth.

AA cloth is the quality standard, and other grades are not desired. A weaver can operate 72 XK-cam looms and make grade A cloth; but to make grade AA cloth consistently, only 58 looms are run.

### These Results Are Obtained

On competitive workloads in all departments, Bemberg cloth is woven at 96% efficiency in the weave room at less than 5% seconds.

---

### Dyeing Orlon

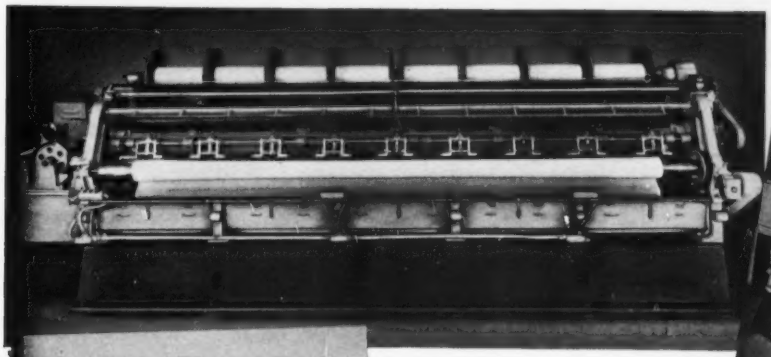
(*Continued from page* 119)

dyed. Blacks may require 12.5% copper sulfate with an equivalent amount of hydroxylammonium sulfate.

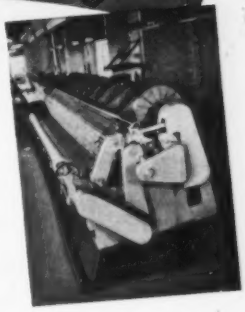
2. After the chemicals and dye have been added to the dyebath, the pH will be in the region of 3.0 to 3.5; and after boiling for a few minutes, it will drop to approximately 2.2. It should remain at this level throughout the dyeing time. If it shows a tendency to go below pH 2.0, monosodium phosphate can be used as a buffer. A percentage of monosodium phosphate equal to the copper sulfate used should be adequate.

3. If the pH of the dyebath is below 2.0 when the color is added, colors may be agglomerated, particularly Du

*You'll hit new production records with the Kidde-Aveco Tricot Machine!*



Left end of machine showing enclosed gear box, pattern mechanism, motor and the controls.



Right end showing continuous let-down and take-up.

## CHECK THESE FEATURES:

***New Continuous Let-Down***
Easy to set and maintain because it's mechanical. Eliminates shade marks, reduces stop marks and improves fabric quality.

***New Variable Speed Drive***
A turn of a hand wheel varies machine speed. No chain drive . . . no gears to be changed . . . quieter operation. Tachometer included.

***New Continuous Take-up***
Quality is established by a simple turn of adjustment screw. No gears or sprockets to be changed. No clutch. Once set, it requires no adjustment.

***Other Features***
These include improved plunger design, improved front guide bar lifting mechanism, quick-stop and jogging control.

## NEW KIDDE-AVECO IS A HIGH POUNDAGE PRODUCER

The new Kidde-Aveco Tricot combines the essentials for large production... high operating speed with high efficiency. Speeds up to 450 courses, depending upon the pattern and yarn, are practical and are being maintained in mills today.

Equally important, the Kidde-Aveco Machine has acquired a reputation for low needle breakage. The press action is gentle and the needle life is better than usual. This means fewer defects and less down time. Other factors contributing to efficiency are enclosed cams running in oil... a one-piece cast girder that maintains machine alignment... and the rugged one-piece base... all exclusive Kidde-Aveco features.

Either to replace old machines or to increase capacity, the Kidde-Aveco is worth investigating. May we send you complete information?

**KIDDE MANUFACTURING CO., INC., BLOOMFIELD, NEW JERSEY**

**Kidde-Aveco**
**FOR TOP-QUALITY FABRICS**

He does more than carry the fullest possible stock for promptly filling your needs. He has a wealth of data at his finger-tips on the applications and correct use of precision screws, dowel pins and pipe plugs. He wants to serve, as well as sell you.

Pont Anthraquinone Blue SWF Conc. 150%, and superficially dyed onto the fiber. When this occurs, the color will soap off, even in a cold-soap test; and the dyeing will be unsatisfactory. Maintaining the correct pH conditions during the dyeing will result in outstanding fastness, and very good exhaust can be obtained with the suggested colors.

4. In the above general formula it is stated that the dyeing should be carried out at the boil. This is not possible with circulating equipment. However, the highest obtainable temperature required to obtain satisfactory exhaust should be employed, and it is believed that most machines will operate satisfactorily at 205° F.

5. In using the hydroxylammonium-acid sulfate, extreme care must be exercised in handling; and it is necessary to neutralize the excess sulfuric acid with caustic soda to a pH of at least 3.5. It takes approximately 14 oz. of caustic to neutralize 2 lb. of hydroxylammonium-acid sulfate (Commercial Solvents) to a pH of 5.0-6.0.

6. A full line of colors using the above technique of dyeing has not been evaluated. However, the following colors have performed well in mill runs:

Du Pont Quinoline Yellow P Extra Conc.
Pontacyl Fast Red AS Extra Conc.
Neutral Fast Orange G Conc.
Du Pont Anthraquinone Iris R
Du Pont Neutral Brown BGL
Neutral Fast Green G
Du Pont Orange RO
Du Pont Orange II Conc.
Du Pont Anthraquinone Blue SWF Conc. 150%

and work is under way to evaluate other colors.

7. Experiments on corrosion effects of this new system have indicated that stainless steel of either type 304 or type 316 will probably be satisfactory. Eighty-hour corrosion tests on type 304 indicated a negligible effect. Other metals for construction will probably not be entirely satisfactory and should be avoided.

### Practical Runs

Two runs were made with technical-laboratory formulas on No. 85 Blue Shade for Air Corps velours fabric in open wooden tubs containing false wooden bottoms and open iron steam pipes. The first run came up very much greener and duller than the desired shade. A correction was made in the formula for the second run, and the shade came up slightly red and bright. However, by blending the two lots it was possible to make up the required shade for the fabric. The following formulas were used:

1. 25 lb. Type-41 Orlon acrylic staple.
2. Wet out in approximately 40:1 volume at 140° F.
3. 2.5 lb. copper sulfate (previously dissolved) added the dyebath, and the bath poled for 2 min.
4. 2.0 lb. hydroxylammonium acid sulfate, neutralized with caustic to pH 5.0-6.0, added.
5. Color (previously dissolved) added in 2 batches with about 2 min. poling between the first and second additions.
6. Stock poled for 5 min.
7. Temperature raised to the boil in approximately 15 min. and run 1 hr. at the boil.
8. Rinsed and dried.

The color formula for the first run included 3.5 oz. of Du Pont Quinoline Yellow P Extra Conc., 3.5 oz. of Pontacyl Fast Red AS Extra Conc., and 1.0 lb. of Du Pont Anthraquinone Blue SWF Conc. 150%.

The color formula for the second run included 1.25 oz. Du Pont Quinoline Yellow P Extra Conc., 3.5 oz. Pontacyl Fast Red AS Extra Conc., and 1 lb. 2 oz. of Du Pont Anthraquinone Blue SWF Conc. 150%.

The pH at the end of the dyeing in each case was approximately 2.2.

In both cases, a practically water-white exhaust was obtained after dyeing for about 30 min. A hand-soaping test exhibited no bleeding.

Other formulas for black, marine green, and slate have also been worked out and satisfactory runs made on a practical scale. These formulas are available from the Du Pont Co., Organic Chemicals Dept., Dyestuff Div., Wilmington, Del.

### Other Peculiarities

Points worth remembering when dyeing Orlon acrylic fiber and evaluating results include:

1. Dyeings made on Orlon exhibit improved fastness to washing and perspiration if a dyebath temperature close to 212° F. is maintained.

2. In the determination of the effect of light on Orlon acrylic fiber, Fade-Ometer exposures have a tendency to scorch the fiber and cause a noticeable dulling of the shade. The degree of scorching and dulling varies from one Fade-Ometer to another as well as varying from day to day in the same Fade-Ometer. Exposure to sunlight under glass is the recommended procedure for obtaining light-fastness ratings on Orlon.

3. Type-81 Orlon is more difficult to dye than Type 41. Either higher dyeing temperatures (212°-250° F.) or the use of a carrier such as paraphen-

# Do You Spin or Twist?

## THEN YOU SURELY NEED

# HERR CONICAL RINGS

- **Stops Yarn Breakage**
- **Permits Heavier Doffs**
- **Keeps Yarn Cleaner**
- **Produces Smoother Yarn**

*Each textile fiber shown above presents wonderful opportunities — each has special characteristics and handles differently.*

Ask us how yarn tension uniformity is controlled with the Herr Conical Ring... How we reduce ends down... How controlled lubrication affects cleanliness.

You can adapt your equipment for any textile fiber or blend if you use Herr Conical Rings.

*Ask for help on your problem.*

Gentlemen:
Please send literature on Herr Conical Rings and Herr Flyers.
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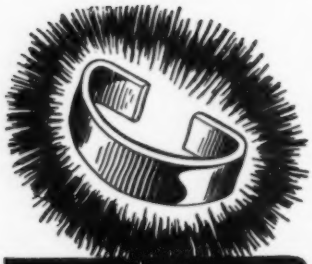

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Ring Travelers

Ask the Man Who Knows!

Today's changing conditions call for many changeovers. And unfamiliar fibers bring new spinning and twisting problems. But there's always a solution—and usually your friendly Dary representative can offer it promptly.

Behind him is more than half a century of our experience at designing and producing Dary Travelers "to do it right". We're at your service!

*Always specify*
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LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 7261, GREENVILLE, S. C.

ylphenol may be required with Type 81, particularly in the production of heavy shades. Further information is being developed on this subject.

4. Hydroxylammonium sulfate is an acidic material and should be handled as such. Contact with the skin, eyes, and mouth should be avoided. Wash off with water immediately if any is spilled on the skin or clothes. The pH of the material should be maintained below 7.0 at all times, since there is danger of decomposition at a higher pH with the liberation of the free amine, which is highly toxic.

5. The hydroxylammonium - acid sulfate is also a highly acidic material, and the precautions mentioned above should be strictly adhered to when handling it also.

---

## Ends-Down Check

(*Continued from page 149*)

On her first tour, the girl checks and records the number of ends down on every frame. On this particular mix of stock, the standard for the first tour is six ends down. If any frame (as is the case here with Frames Nos. 1, 3, and 9) has more than six ends down, the girl records the number with a red pencil to distinguish it from the recording with an ordinary lead pencil of the ends down on the other frames.

On her second tour, she visits only the frames that had too many ends down on the first tour (Nos. 1, 3, and 9).

The standard for the second tour is five ends down. However, the first and second tours are totaled so that for the first two tours the standard total is 11. If any of the frames that were above standard on the first tour have a total of 11 or more ends down for the first two tours, the total number is recorded in red for the second tour (Frames 1, 3, and 9 again on the report on page 149).

On the third tour, the standard ends down is four, making a standard total of 15 for the three tours. On the third tour the girl visits only the frames that had too many ends down (but less than 15) during the first two tours.

Note that Frame No. 1 had a total of 14 ends down for the three tours. It was within standard, and nothing was done.

Frame No. 3 totaled 16 ends down for the three tours. That made it one above standard and therefore out of control. It was given a standard ends-down study for a period of one doff, with every end down and the cause for it being recorded.

Frame No. 9 totaled 15 for the first two tours. At that point ends-down studies were started, and the girl did not visit that frame on the third tour.

### How We Set Standards

The heart of the method, of course, is in setting the standards. So we must answer the question: Where did the 6, 11, and 15 come from?

Extensive checks showed that our average ends down per frame on this mix was two during a tour. They were 2.08 to be exact, but we used the round figure. Standard deviation was 2.12, and again we used 2.

1. For the first tour, the standard was set by the formula:
   Average + 2 standard deviations
   By substituting figures, this formula works out as:
   $2 + 2\ (2) = 2 + 4 = 6$
2. For the second tour, the standard was set by the formula:
   Average + (2 std. dev. ÷ square root of 2)
   Substituting figures, we have:
   $2 + [2\ (2) \div \sqrt{2}]$
   $= 2 + (4 \div 1.4)$
   $= 2 + 3$
   = the standard 5
   (1st tour 6 + 2nd tour 5 = two-tour standard 11)
3. For the third tour, the standard was set by the formula:
   Average + (2 std. dev. ÷ sq. root of 3)
   $= 2 + [2\ (2) \div \sqrt{3}]$
   $= 2 + (4 \div 1.75)$
   $= 2 + (4 \div 2)$
   = the standard 4
   (1st and 2nd tours 11 + 3rd tour 4 = three-tour standard 15)

We followed this practice for setting standards for the three tours on all our cotton mixes.

### What This Tool Is Good For

We do not consider this method a substitute for standard ends-down tests where ends down per 1,000 spindle hours are calculated. However, a regular test has certain disadvantages. It takes a lot of time (4 hr. at our mill), does not lend itself to use as a daily control tool, does not tell you how many ends should be down on a frame at any given time, and cannot be run by inexperienced help.

We have found our short-cut method a valuable trouble-spotting tool that is completely in the hands of the man who needs it: the spinning overseer. Since it can easily be set up as routine, it requires none of his time and yet takes guesswork and opinion out of the important question: "How's the spinning room running today?"

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. June, 1952

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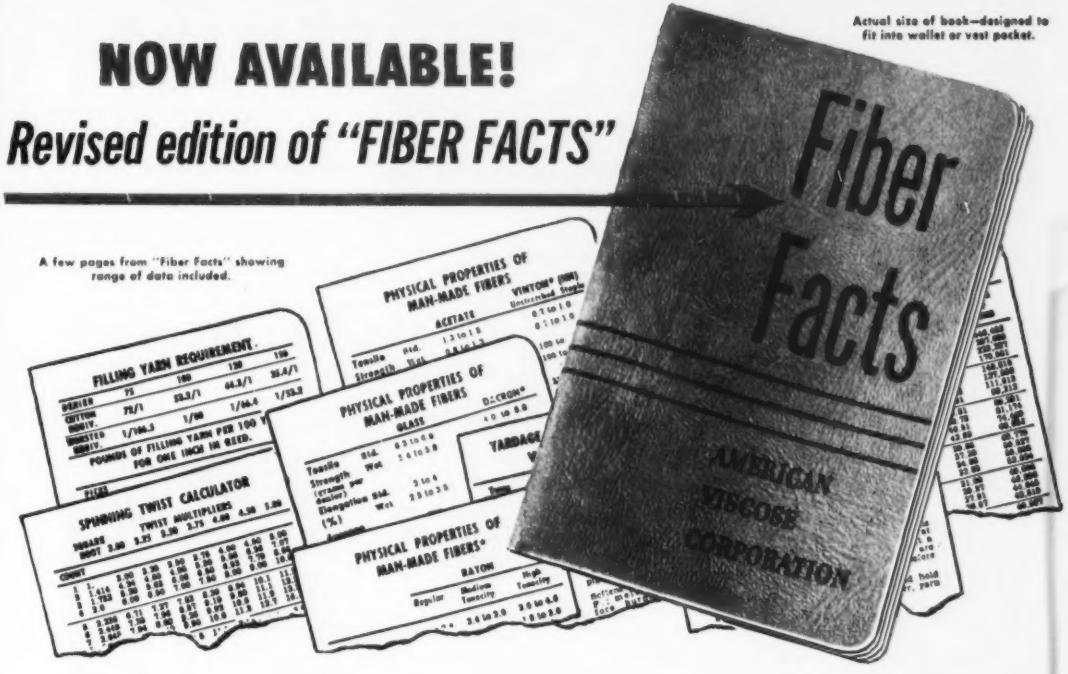
## Revised edition of "FIBER FACTS"

Actual size of book—designed to fit into wallet or vest pocket.



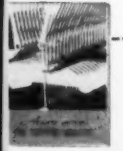

A few pages from "Fiber Facts" showing range of data included.

### *1952 edition of useful vest pocket handbook ready for distribution*

Avisco's "Fiber Facts," the useful and popular vest pocket handbook, has been revised to include up-to-the-minute facts which have become available during the past year. The first of its kind, this little compendium of essential information on textiles has proved to be an essential tool to many mill executives and others in the industry. Users report that its information-packed pages enable them to keep basic data at their finger tips and thus minimize the need for search through bulkier technical works.

Often needed information on Avisco and its products, comprehensive tables on such subjects as physical properties of rayon and other synthetic fibers, denier conversion, spinning twist calculations and yarn requirements are presented in digest form. The contents include a glossary of textile terms, a bibliography of rayon publications, a calendar, and space for memoranda.

Everyone actively working with man-made fibers will want this revised edition of "Fiber Facts." Write on your firm's letterhead for your copy.



Send for your copy of "Avisco serves the Knitting Industry." This information-packed booklet highlights the newest developments by Avisco for the knitting industry. You will find technical and descriptive information on Avisco products, swatches of tricot fabric developments, a flow chart showing a new proposed continuous tricot dyeing process. Write for your copy using your firm's letterhead.

**MAKE USE OF *Avisco*® 4-PLY SERVICE**

To encourage continued improvement in rayon fabrics, American Viscose Corporation conduets research and offers technical service in these fiekls:

**1 FIBER RESEARCH**
**2 FABRIC DESIGN**
**3 FABRIC PRODUCTION**
**4 FABRIC FINISHING**

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*World's largest producer of man-made fibers*

*Sales Offices:* 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

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SPECIALIZED ENGINEERING

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SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES

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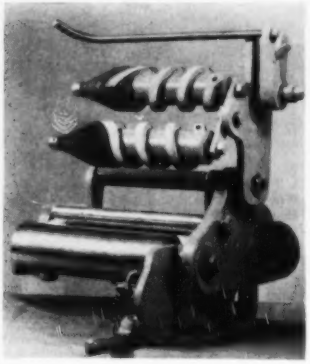
## TEXTILE *Equipment* NEWS

(Continued from page 163)



### 9-In. Spiral Rolls Turn Back Selvages

The "Taker-Outer" is the name of a new selvage-turning eliminator now offered by Guider, Roll & Service Co., Box 3747, Peninsula Sta., Daytona Beach, Fla. Spiral rolls 9-in. long, driven by the cloth in process, accomplishes the taking out or turning back of turned selvages. One spiral roll is in front and the other in back of the cloth.

The turners can be attached to existing cloth guiders or can be supplied with brackets and used any place where cloth travels in open form. The unit also has an attachment that tightens the selvage of the fabric before the turned selvages are straightened. Ball and Oil-lite bearings are used throughout.

Stainless-steel operating parts are available in place of other metals if required.

### Variation in Card Roving Reduced by Compensator

The "Bigelow Card Compensator," a device just patented by Bigelow-Sanford Carpet Co., Inc., New York, that controls and improves the uniformity of woolen card roving, is readily adapted to woolen cards using any type of broad band feed, the company says. The compensator is to be manufactured commercially by Davis & Furber Machine Co., North Andover, Mass., and Whitin Machine Works, Whitinsville, Mass.

Another model is at the moment being developed to fit the Apperly-type feed.

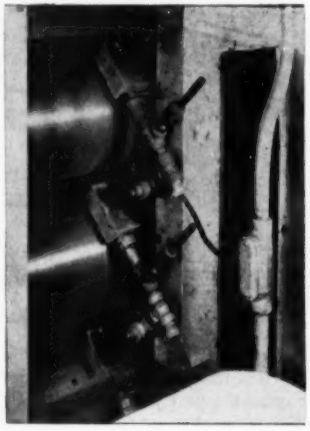
The purpose of the compensator is to provide a means for controlling the distribution of wool fibers across the finisher card. It is believed that the heavier roving ends obtained from the center of a card rub-apron come from the action of the traveler that carries the carded web from the first card across the finisher-card conveyor table at the back.

By means of an eccentric sprocket, a variable speed drive is obtained for this traveler. The traveler slows down as it approaches the sides of the conveyor, and accelerates as it approaches the middle. Consequently, it deposits more weight of wool at the sides and less in the middle.

The variable-speed device is adjustable, allowing adequate control for machine speeds and varying stocks and yarn weights.

The cost of the eccentric sprocket and variable speed drive is so small so as to be "inconsequential" in comparison with the over-all cost of the card itself.

Three plants, two making carpets and one making paper-makers' felts, already have the device in operation. They get an increase in final-product quality from the decrease in light and heavy ends, from the reduction in waste, and from the minimizing of the mending ordinarily necessitated by fabric defects.



### Roll-Surface Temperatures Measured Continuously

High precision in measuring roll-surface temperatures, from −40° F. to +450° F., is obtained with a temperature-measuring head developed by The Foxboro Co., Foxboro, Mass. The head is used in conjunction with a recording controller to furnish mills with continuous chart records of roll-surface temperatures on calenders, slashers, dryers, and any other roll-type machines.

The temperature-sensitive element

# INCREASED PRODUCTIVITY

## MAY BE A MATTER OF "VISUAL APTITUDE"

The record of visual performance tests on more than 5,000,000 individuals, in 4,000 job categories, reveals that, regularly, four of every ten industrial workers are visually unqualified for satisfactory performance on the jobs they are doing. Furthermore, the record shows the high degree of responsibility on these visually-unqualified people, for high costs . . . waste and rejects . . . accident rate . . . labor turnover . . . training time and make-up pay.

## YOU CAN IDENTIFY THE "VISUALLY UNQUALIFIED"

The Bausch & Lomb Occupational Vision Service is a scientific method for determining visual standards on the basis of job performance . . . for identifying those unsuited to their jobs . . . for visual rehabilitation and for placement in jobs for which visual aptitudes are advantageous.

### A PROVED METHOD TO HELP YOUR PLANT MAKE MONEY 9 WAYS

The Bausch & Lomb Occupational Vision Service is available to you. It is easy to administer. Employee participation is voluntary . . . *and workers like the program.* Benefits which accrue in plants using O.V.S. (benefits which can accrue in your plant, too) include:

1. Improved quality of production
2. Increased production per worker
3. Reduced waste of materials and work rejects
4. Improved accident record
5. Reduced labor turnover
6. Lowered training cost
7. More effective placement
8. Reduced absenteeism
9. Improved employee relations

**MAIL TODAY!**

Send for the brochure "Eyes Right for the Job," which tells what the Bausch & Lomb Occupational Vision Service is, how easily it can be administered in your plant, and at what low cost.

**Bausch & Lomb Optical Co., 95106 Smith St., Rochester 2, N. Y.**

Please send me the brochure "Eyes Right for the Job," and complete details on the Bausch & Lomb Occupational Vision Service.

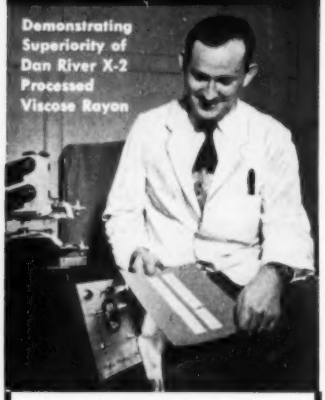
Name..... Title.....

Company.....

Street.....

City..... Zone..... State.....

IN THE RESEARCH LABORATORY OF
DAN RIVER MILLS INC.
DANVILLE, VA.

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*gives exact facts on*

- ABRASION
- FLEXING
- FOLDING

A multipurpose precision instrument for measuring resistance to surface and edge of abrasion, flexing and folding of such materials as woven and knitted, napped and pile fabrics, hosiery, felt, non-woven and coated fabrics, yarns, threads and cordage, etc. Self contained. Direct evaluation of quantitative parameters. All tests made with specimen dry or immersed in water, oil, other liquids. No combination with other test methods required. Automatic end points secure definite results of high reproducibility, minimize need for operative evaluation. Versatility and speed make it suitable for research and quality control. Designed so it is possible to obtain reliable data without special skill.

Sturdy construction permits continuous operation, minimize maintenance. Consult us freely on particular questions, relating to testing materials in range of the Universal Wear Tester.

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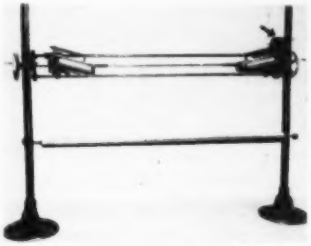
SCIENTIFIC INSTRUMENTS, Inc.
P. O. Box 170 Arlington, N. J.
CUSTOM BUILT LABORATORY EQUIPMENT

is a miniature resistance bulb that rides lightly on the surface of the roll. It is mounted on a block of "Marinite," which effectively isolates it from ambient temperatures. To avoid any scratching of the surface of the roll, the element is carried by an "Eel-slip" faceplate, which also wipes the film of air from the roll as further protection against errors from ambient temperatures.

The unit with its cast aluminum housing weighs less than one pound and is approximately the size of a wall switch box.



## Cloth Guider Stands Have Driven Rolls

Guider stands in which the motor (arrow) speeds the action of the carriages carrying the guider heads have been announced by Guider, Roll & Service Co., Box 3747, Peninsula sta., Daytona Beach, Fla.

The motor-operated stand is equipped with latest-type Hetherington mechanical guider. Dual hand wheels make it possible to operate the stand manually from either side.

Switches on both sides control the movements of carriages and heads. Carriages can be sped toward one another a distance of 40 in. in 6 sec. Exact positioning is obtained by means of an electric brake coincidentally operated with the motor.

In addition, newly-designed manually-operated guider stands, where the operator widens or narrows the distance between the guider heads by a hand wheel, are also available.

## Device Automatically Measures and Quarter-Folds

An automatic measuring device manufactured by American Machine and Metals, Inc., East Moline, Ill., has been developed that measures materials into sheets of various lengths, into halves, quarters, etc., for marking, cutting and folding.

The job is done automatically by electro-mechanical means. The device is already being used on automatic folding machines made by the laundry-machinery division of the company.

## Accurate pH Meter Fits the Pocket

A pocket-sized pH meter and companion probe unit designed to permit instant, on-the-spot pH testing has been developed by Analytical Measurements, Inc., 585 Main St., Chatham, N. J. This 3-lb. instrument is furnished completely self-contained with batteries in a Bakelite case 3x5 $\frac{7}{8}$ x 2$\frac{1}{4}$ in. with an ever-ready case and with plastic tubes of buffer and potassium-chloride solutions. The meter is scaled from 2 to 12 pH for easy reading, and a simple adjustment gives reading from 0 to 14. Accuracy of 0.1 pH is claimed.

## Correction:

In the March issue on p. 178, we published a write-up entitled "Draper Looms Assembled by Wilson Co., Greenville." In that article we stated, "New or rebuilt Draper looms are now available from a new source—Emil V. Wilson Machinery Co., Inc., 1210 New Buncombe Rd., Greenville, S. C."

Walter M. Mitchell, vice president, Draper Corp., advises: "This statement is in error. . . . The only possible source of new Draper looms is the Draper Corp. . . . We have not authorized anyone to build new Draper looms. We have agreed to sell to the Wilson Machinery Co. repair parts for overhauling and reconditioning old looms."

We regret this error and are happy to call it to the attention of our readers. The rest of the write-up was correct.

—Editors

# Swing to—

## BOGER & CRAWFORD

### SPUN NYLON YARN!

*The quality of Boger & Crawford yarn is guaranteed—the highest tribute we can pay it.*

SIGNED Frederick Boger

***"SWING" is in the air!***

. . . to Boger & Crawford spun nylon yarn! 60/2 and 80/2 ply.

Ideal for weaving and knitting! Sweater . . . skirt . . . stockings . . . by "courtesy" of B & C spun nylon yarn! Available in 20 wonderful fast colors. Color fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

*Write for free samples of colors today!*

## BOGER & CRAWFORD

**K & E. Venango Sts. • Philadelphia 34, Pa.**

## one hundred percent return in eight months

*Unusual?*

Yes. But several mills have made it, replacing five to ten older models with two new spoolers paying for themselves in LESS than 8 months.

These mills had figured in the extremely low capital investment, the vastly improved quality of the spools, and they had noted that the new spooler could do the work of two, three, even four older machines.

In short, they'd considered the radical changes the Model 60 spooler would make in their dressing departments . . . and all to be written off in just a few months. Then . . . they bought.

If YOU are interested, write . . . now.

**DAVIS & FURBER MACHINE COMPANY**

North Andover, Mass., Charlotte, N. C.

*Textile Machinery, Card Clothing*

# News OF THE MONTH

**Two-Toned Wool Without Blending.** Two-toned dyed effects on woolen and worsted fabrics without prior blending of stock-dyed or top-dyed roving has been developed to a commercial point in a simplified chemical-treatment process by Fosse Dyeworks Ltd., Syston, Leicester, England. The process is registered under the name of "Maifoss."

With the new process, wool can be dyed as yarn or in the finished fabric, yet two-toned effects result. The process can be applied for discharge-printing effects also. Alteration of the dyeing properties of the wool as needed is reportedly the secret of the new treatment, so that cross-dyeing effects of treated and untreated blended stocks can be obtained.

**Australian Wool-Scouring Process.** A newly developed jet-solvent wool-scouring process that subjects wool to jets of solvent to remove waxes and dirt and then to jets of water to remove suint and residual solvent has been gaining some attention in Australia.

The new process will be applied in a specially designed continuous unit with two separate chambers. Dry-cleaners' solvent is used in the first chamber. Several types of standard dry-cleaning equipment are also being used to recover and clean the solvent for re-use.

A plant for processing continuously large quantities of wool by the jet-solvent process is expected to be running full by the end of the year. Wool Textile Research Laboratories at Geelong, Victoria, developers of the process, say that lanolin recovery will be high, felting will be less, and better carding and combing will result.

**Hosiery-Mill Unionization Urged.** Because there is no legal way for hosiery manufacturers to control industrywide inventories and production, a 100%, or even 80%, unionization of hosiery mills would aid manufacturers by affording a legal approach to the control of production, Samuel F. Rubin, executive vice president of Gotham Hosiery Co. and chairman of the board of the National Assn. of Hosiery Mfrs., told the 40th annual convention of the American Federation of Hosiery Workers, AFL, recently.

Inventories and production schedules in unionized mills would through strong union contracts tend to discourage extra-shift operation that in the end only glut the market. The idea of stiff rates for overtime pay for Saturday and second or third-shift work was first brought up by union officials back in January.

**Knit-Goods Shrinkage Recommendations.** The subcommittee on shrinkage terminology of the Underwear Institute, New York, recommends the following rules for advertising be used by manufacturers who are properly employing the newly developed methods for reducing shrinkage in knit goods:

1. Advertising should not convey the idea that the garment contains no shrinkage possibilities.

2. Statements should be made with regard to an over-all type of garment rather than to a specific garment that may have been tested and specially handled.

3. Statements with regard to actual residual shrinkage in a particular class of garments should not be made without reference to a specific test.

4. Statements with regard to residual shrinkage should state the method of drying used (screen flat drying, hot-air tumble drying) to avoid consumer confusion.

5. Manufacturers who desire to state percentages should wait until the ASTM officially adopts a test before going "all out" so that a more uniform basis may be kept for all manufacturers.

**Chemically-Treated Contour Bandages.** A simple chemical treatment that allows ordinary open-weave gauze to shrink freely and completely in a caustic-soda solution and thus become extremely kinky so that in bandages it can stretch and fit body contours has been developed for commercial use by Southern Regional Research Laboratory, New Orleans, La.

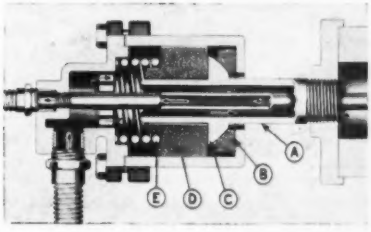
The caustic solution is about 20 to 30 concentration. After washing out of the caustic and neutralizing with a dilute acid, the gauze is thoroughly washed out and dried with a minimum of tension. The resultant elasticity of the shrunk fabric in both directions is sufficient to make the modified gauze essentially self-fitting and non-slipping. Thus it conforms readily to various

# Self-Supporting . . . in more ways than one

Johnson Joints are long-established favorites in the textile industry. More mills, and more machinery manufacturers, have adopted Johnson Joints than any other stuffing box of their kind.

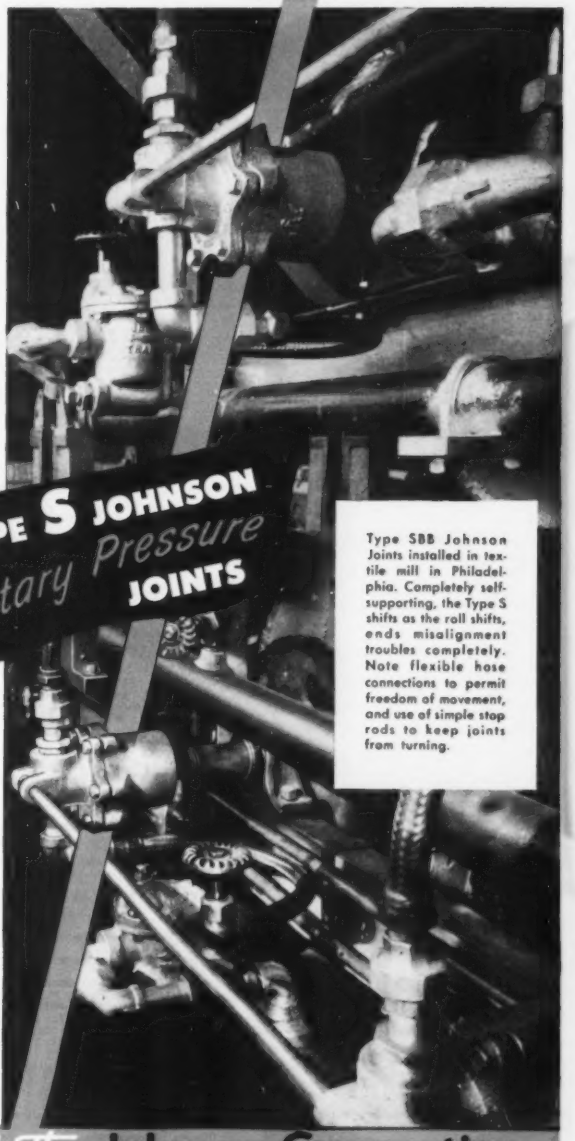
The Type S is a specialized variation developed to fit certain operating conditions even more closely. Being self-supporting, it is the perfect answer where, for example, support rods for the Type L cannot be readily provided, or where pipe connections present some difficulty. And since it shifts as the roll shifts the Type S ends the danger of misalignment completely.

Like all Johnson Joints the Type S is self-supporting from a dollar-and-cents standpoint, too. You can switch over — on your dry cans, calenders and similar textile machinery — with full assurance that the cost will come back quickly out of maintenance savings alone.




**Slashes Maintenance—Improves Efficiency**

Nipple (A) is connected to roll. Carbon graphite seal ring (B) rotates against convex surface of collar (C). Joint assembly is supported by guide (D), also of self-lubricating carbon-graphite. Spring (E) is for initial seating only. Joints shown in illustration above are similar, but have both inlet and outlet in same plane to permit head lugs for stop rod.



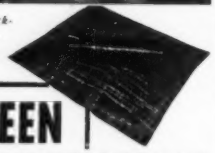

Type SBB Johnson Joints installed in textile mill in Philadelphia. Completely self-supporting, the Type S shifts as the roll shifts, ends misalignment troubles completely. Note flexible hose connections to permit freedom of movement, and use of simple stop rods to keep joints from turning.

Products of The **Johnson Corporation**

814 Wood St., Three Rivers, Mich.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

*For wrapping, packaging all textiles, for shipment or storage.*



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**ASSURES COMPLETE PROTECTION**

YOU save time, labor and money when you adopt FIBREEN packaging methods. This tough, waterproof, reinforced wrapping is easy to handle . . . takes less time . . . protects textiles from dirt and moisture in transit and storage . . . makes a light, compact package . . . reduces shipping and storage costs.

The FIBREEN method shown above has many sound advantages, such as:

- A moisture and dirt-resistant package is assured.
- Combined material and application cost is low.

What's *your* packaging problem? Qualified FIBREEN packaging engineers with over 20 years' practical experience will gladly cooperate with you.

Available in widths of 36", 48", 60", 72", 84" and 96", and in several grades, including non-asphaltic combinations, for your specific packaging problem.

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# NEWS *of the Month*

(Continued)

body shapes, yet does not restrict blood circulation or freedom of movement.

**"Tex" More Popular Than "Grex."** The Textile Institute, Manchester, England, has polled its members to ascertain whether they favor a universal yarn-numbering system based on grams per kilometer ("tex") or grams per 10 kilometers ("grex") and has come up with the following:

1. 91% of those who answered, from all divisions of the textile industry, favored some universal system.
2. 88 to 89% of the yarn-preparation, spinning, and weaving members favor a universal system.
3. 94, 96, and 98% of the cotton-system, denier-system, and worsted-system users favor a universal system.
4. 71% of the total voters support the "tex" system, 12% support the "grex" system, and 17% were undecided.
5. 30% of the "grex" system supporters were man-made-fiber production members, and 27% of the "grex" system supporters were users of the denier system.

**Annual Workshop at LTI.** Starting the 16th of this month, a second annual textile workshop, sponsored by the college research foundation, will be held for six weeks at Lowell Tex-

## Textile Calendar

**Textile Institute,** annual conference, Assembly Hall, Edinburgh, Scotland, June 2 to 6, 1952.

**AATT, monthly meeting,** Builders Club, New York, June 4, 1952.

**AATCC, Northern New Eng. Sect.,** annual outing, Merrimac Valley Country Club, June 6, 1952.

**AATCC, Southeastern Sect.,** annual outing, Radium Springs, Ga., June 6 and 7, 1952.

**AATCC, Piedmont Sect.,** Ocean Forest Hotel, Myrtle Beach, S. C., June 6 and 7, 1952.

**STA, annual convention,** Ocean Forest Hotel, Myrtle Beach, S. C., June 12 to 14, 1952.

**AATCC, council meeting,** New York, June 13, 1952.

**AATCC, general research** committee meeting, New York, June 13, 1952.

**AATCC, Philadelphia Sect.,** outing, LuLu Temple Country Club, North Hills, Pa., June 13, 1952.

**AATCC, Midwest Sect.,** Lake Lawn Lodge, Delavan, Wisc., June 14, 1952.

**LTI, short course in reprocessed and reused stock and garnetting,** Lowell Textile Institute, Lowell, Mass., June 16 to 20, 1952.

**LTI, annual textile workship,** Lowell Textile Institute, Lowell, Mass., June 16 to July 25, 1952.

**Georgia Tech, lubrication course,** Georgia Institute of Technology, Atlanta, Ga., June 16 to 27, 1952.

**Gordon Research Conferences, AAAS,** Colby Junior College, New London, Conn., June 16 to Aug. 29, 1952.

**AATCC, Western New Eng. Sect.,** outing, June 20, 1952.

**AATCC, New York Sect.,** outing, June 20, 1952.

**AATCC, Hudson-Mohawk Sect.,** Jack's Restaurant, Albany, N. Y., June 20, 1952.

**ASTM, annual meeting,** Hotel Statler, New York, June 23 to 27, 1952.

**LTI, short course in woolen carding and spinning,** Lowell Textile Institute, Lowell, Mass., June 23 to July 3, 1952.

**Philadelphia Textile Mfrs. Assn.,** annual outing, Torresdale-Frankford Country Club, Philadelphia, Pa., June 27, 1952.

**American Oil Chemists Soc.,** short course in soaps and detergents, Rutgers Univ., Brunswick, N. J., July 6 to 11, 1952.

**AATT, monthly meeting,** Builders Club, New York, Sept. 3, 1952.

**7th National Chemical Exposition,** Collseum, Chicago, Ill., Sept. 9 to 13, 1952.

**Fiber Society,** fall meeting, Princeton, N. J., Sept. 10 and 11, 1952.

**AATCC, Piedmont Sect.,** Hotel Charlotte, Charlotte, N. C., Sept. 12 and 13, 1952.

**AATCC, Southeastern Sect.,** Atlanta, Ga., Sept. 13, 1952.

**Third Canadian Textile Seminar,** Queen's University, Kingston, Ont., Sept. 11 to 13, 1952.

**AATCC, council meeting,** New York, Sept. 19, 1952.

**AATCC, general research** committee meeting, New York, Sept. 19, 1952.

**TAPPI, annual meeting,** Portsmouth, N. H., Sept. 25 and 26, 1952.

**AATT, monthly meeting,** Builders Club, New York, Oct. 1, 1952.

**AATCC, Western New Eng. Sect.,** Rapp's Restaurant, Shelton, Conn., Oct. 3, 1952.

**17th Southern Textile Exposition,** Textile Hall, Greenville, S. C., Oct. 6 to 11, 1952.

**Beltwide Cotton Mechanization Conference,** San Joaquin Valley, Calif., Oct. 22 to 24, 1952.

**AATT, monthly meeting,** Builders Club, New York, Nov. 5, 1952.

**AATCC, national convention** and dyeing and finishing exposition, Hotel Statler, Boston, Mass., Nov. 6 to 8, 1952.

**AATCC, council meeting,** Boston, Mass., Nov. 6, 1952.

**AATCC, general research** committee meeting, Boston, Mass., Nov. 6, 1952.

**AATCC, Western New Eng. Sect.,** Rapp's Restaurant, Shelton, Conn., Nov. 14, 1952.

**AATCC, monthly meeting,** Builders Club, New York, Dec. 3, 1952.

**AATCC, Northern New Eng. Sect.,** annual meeting, LTI, Lowell, Mass., Dec. 6, 1952.

**AATCC, Western New Eng. Sect.,** Rapp's Restaurant, Shelton, Conn., Dec. 12, 1952.

**1953**

**22nd AMA National Packaging Exposition,** Navy Pier, Chicago, Ill., April 20 to 24, 1953.

**Natl. Assn. of Hosiery Mfrs.,** annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 27 and 28, 1953.

**Knitting Arts Exhibition,** Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.

**AATCC, national convention,** Stevens Hotel, Chicago, Ill., Sept. 17 to 19, 1953.

**1954**

**American Textile Machinery Exhibition,** sponsored by American Textile Machinery Association, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

# LONGER LIFE-LESS OILING

## WHEN TOP ROLLS ARE *"Flow-Steel"* RECONDITIONED

Important mill savings start *immediately* when you install top rolls conditioned by Ideal Machine Shops' exclusive "Flow Steel" method.

LESS OILING—Oil-retaining metal, built into all bearing parts, eliminates the necessity of daily or weekly oilings. Oil penetrates and is "stored," rather than remaining on the surface to be taken up and wasted by gathering lint. Oiling once a month is generally sufficient.

CLEANER YARN—By eliminating surface oil, "Flow-Steel" treated top rolls cut out dripping and splattering. Oil stays *in* the bearing parts, and *off* the yarn. Seconds due to oil-spotting are negligible.

LONGER LIFE—This extra oiling efficiency reduces wear on rolls, cap bars, and saddles. Wear resistance is also greatly increased by the cushioning action of "Flow-Steel" soft metal against cast iron at bearing spots. Ends and middles are rebuilt to exact dimensions, absolutely true to assure smooth, even operation.

Compare "Flow-Steel" reconditioned top rolls with any others, and be convinced of your savings.

OIL-IN-METAL

Special oil-retaining metal on bearing parts actually soaks up oil, and "stores" it for greatest oiling efficiency.

# IDEAL MACHINE SHOPS, INC.

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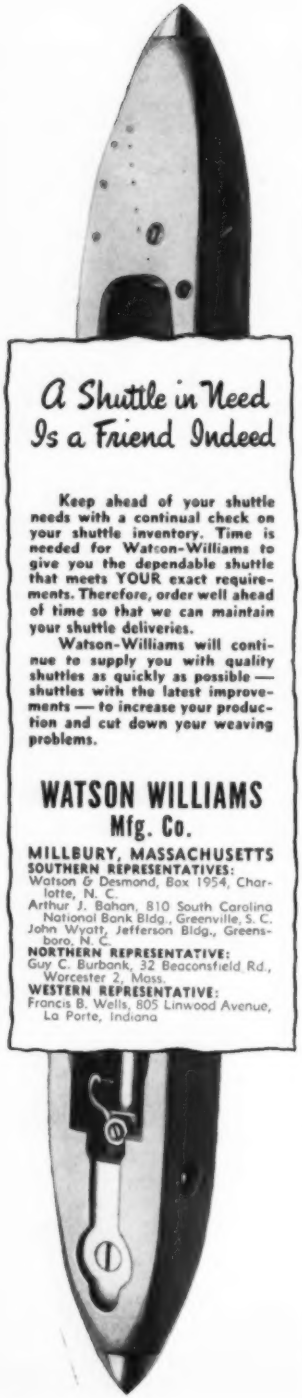
**BESSEMER CITY, NORTH CAROLINA**

**28TH YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS**


A Shuttle in Need
Is a Friend Indeed
Keep ahead of your shuttle needs with a continual check on your shuttle inventory. Time is needed for Watson-Williams to give you the dependable shuttle that meets YOUR exact requirements. Therefore, order well ahead of time so that we can maintain your shuttle deliveries.
Watson-Williams will continue to supply you with quality shuttles as quickly as possible — shuttles with the latest improvements — to increase your production and cut down your weaving problems.
WATSON WILLIAMS
Mfg. Co.
MILLBURY, MASSACHUSETTS
SOUTHERN REPRESENTATIVES:
Watson & Desmond, Box 1954, Charlotte, N. C.
Arthur J. Bahan, 810 South Carolina National Bank Bldg., Greenville, S. C.
John Wyatt, Jefferson Bldg., Greensboro, N. C.
NORTHERN REPRESENTATIVE:
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.
WESTERN REPRESENTATIVE:
Francis B. Wells, 805 Linwood Avenue, La Porte, Indiana

# NEWS *of the Month*

(Continued)

tile Institute, Lowell, Mass. A week each will be devoted to the following subjects: fiber properties, the conversion of fibers to yarns, the conversion of yarns to fabrics, finishing, dyeing, and the evaluation of textiles for specific end-uses.

Enrollment is limited to 26. A fee of $600 covers tuition, living accommodations, breakfasts and lunches, transportation for field trips, and the required reading material. Resident facilities for wives are available at $15 per week. Prof. Ernest P. James of the LTI chemistry department is director of the summer-school workshop session.

**Lubrication Course at Georgia Tech.** A two-week lubrication course, to run from June 16 to 27, will be held at Georgia Institute of Technology, Atlanta, Ga. The American Society of Lubricating Engineers is co-sponsoring the instruction.

Topics to be covered include bearing design, bearing materials, lubricants, lubricant dispensing, recent lubrication developments, lubricant technology, rolling bearings, gear lubrication, textile-machinery lubrication, cutting-fluid technology, and lubrication-section organization.

Tuition has been set at $100. Enrollment is limited to 60 men. Dr. Joseph P. Vidosic of the School of Mechanical Engineering at Georgia Tech is the course director.

**New Wool Association Head.** Ames Stevens, president and treasurer of Ames Worsted Co., Lowell, Mass., was elected president of the National Assn. of Wool Mfrs., New York, at the recent 87th annual meeting. He succeeds the late Arthur Besse, who held the position for 18 years. Walter Humphreys of Boston, Mass., secretary-treasurer of the association, is retiring from the organization at the end of this month after completing 30 years of service.

**Wool Processing Courses at LTI.** A special summer course designed for second hands or others who aspire to positions as overseers in woolen carding or spinning is being offered from June 23rd to July 3rd, at Lowell Textile Institute, Lowell, Mass. The course, under the direction of James H. Kennedy, Jr., professor in charge of the woolen and worsted yarn department, is being sponsored by the alumni association of the Institute.

Tuition charges will be paid by the Davis & Furber Machine Co., North Andover, Mass., in the interest of carding and spinning manufacturing. The course will be limited in its enrollment to 50 students.

The entire cost of the two-week course will be $150—a fee that includes room, meals, transportation for field trips, notes, and papers. It is expected that the mill that sends the student will pay these charges. Students will reside in Eames Hall, the new dormitory, and will eat in the college cafeteria.

**Re-Processed Fibers Course.** A second annual "short course" in reprocessed and reused fibers will be presented at Lowell Textile Institute, Lowell, Mass., from June 16 to June 20. The course, sponsored by the National Assn. of Waste Material Dealers, Inc., will be under the direction of James H. Kennedy, Jr., professor in charge of the woolen and worsted yarn department.

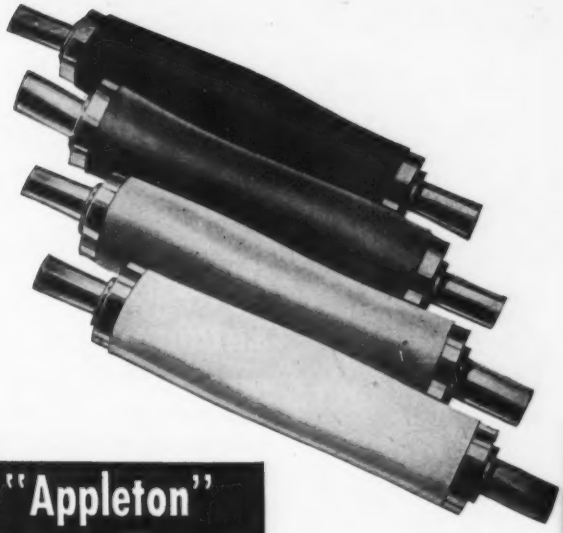
Fee for the course will be $100, paid in advance. This fee covers registration, tuition, board, room, transportation for all field trips, paper, and notes.

The course will include lectures and laboratory work on rag picking, garnetting, etc. Leaders in that field will address the students on various phases of economics and processing. The new garnetting laboratory at the Institute will be dedicated and will be in operation for the course. Field trips will be made to modern garnetting plants and woolen mills.

**1952 Kenaf Program.** The purchase program began last year by the U. S. Department of Agriculture to encourage the development of a supply of kenaf fiber (as a jute substitute) and improvements in fiber-extraction processes is being continued in a 1952 program. Purchases are being made as previously by the Commodity Credit Corp. A maximum of 7,500 tons (1,250 tons maximum from any individual) of high-quality kenaf fiber is now being purchased under contracts with individuals or companies in the field. Prices to be paid range from 10 to 32¢ per lb., depending on the grade.

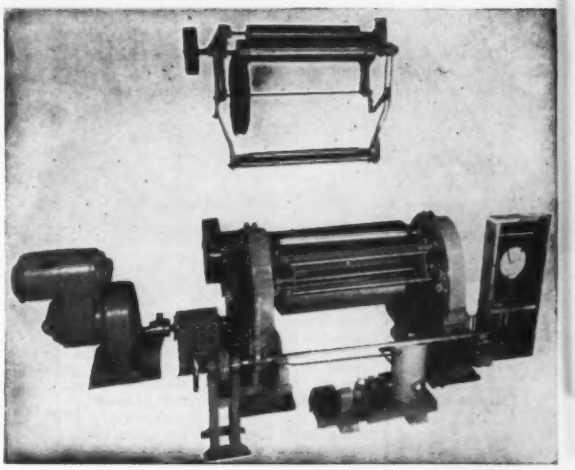
Last year's experience in growing kenaf resulted in the discovery of a new disease, not yet definitely identified, that creates a hazard to kenaf and possibly also to other related crops, especially cotton. For this reason, the production program in the United States this year is limited to certain counties in Florida, all of which are normally non-cotton producing. Last year the pink bollworm, a principal cotton pest, was found on kenaf plants in south Texas.

. . . Calender Rolls, both new and refilled, of all types, from America's most complete line of filled rolls, well deserve to be called "America's Finest" because of their long life and better performance.



# We've Named These "Appleton" --you'll call them "America's Finest"

. . . Two Roll Embossing Calender . . . compact, ruggedly built . . . designed to operate with a minimum of power and maintenance . . . offers these features — 10″ Bored Steel Roll, 20″ APPLETON Special Wool Felt Roll, Air Pressure Cylinder with Recording Chart, Anti-Friction Bearings, Force Feed Oil Lubrication, Ceiling Folder, Direct Motor Drive with Variable Speed. Truly "America's Finest".



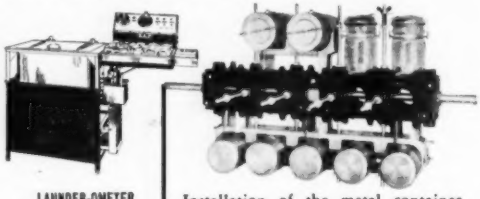
Custom Builders of Textile Finishing Equipment — Friction Calenders
Silk Calenders — Schreiner Calenders — Rolling Calenders

# Speed up your Launder-Ometer to 10 TIMES its present testing rate with . . .

## Atlas Metal Containers

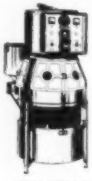
**Give the same color loss test in 1/10 the time required for standard tests in glass jars.**

The accelerated action of the steel containers is due to the shape and size of these metal cylinders which are 3½" diameter and 8" long and when mounted on the adaptors in the Launder-Ometer produce a speeded up action that obtains the same results as the standard glass jars in only 1/10th the time.

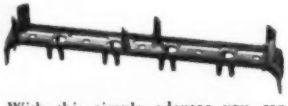


LAUNDER-OMETER

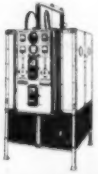
Installation of the metal container adaptors is simple and easy. You do not need to convert all of your containers to metal cylinders unless desired. Adaptors are available for two, or five metal containers. Twenty samples can be tested simultaneously using metal containers, glass jars, or combinations of both.



FADE-OMETER



With this simple adaptor you can transform your present Launder-Ometer into a high speed machine that will produce color loss equivalent to 5 commercial launderings in just 45 minutes. This is the new AATCC washfastness test.



WEATHER-OMETER

**Write for special bulletin giving full information on metal cylinder conversion and Accelerated Washfastness tests.**

**ATLAS ELECTRIC DEVICES COMPANY**
361 W. Superior Street, Chicago 10, Illinois, U. S. A.


# NEWS ABOUT Suppliers

## Equipment Suppliers

**Air Reduction Co., Inc.**, has announced the election of George V. Slottman as a vice-president. Dr. Slottman, received his Ph.D. at the University of Berlin and taught at M.I.T.

**Barber-Colman Co.**, Rockford, Ill., has acquired Wheelco Instruments Co., Chicago, Ill., and will at present continue to operate it as the Wheelco division. No changes are contemplated in the Wheelco sales and service organization.

**Conoflow Corp.**, Philadelphia, Pa., has appointed Equipment Sales Corp. to represent it in east and central Tennessee and in southwestern Virginia.

**The Foxboro Co.**, Foxboro, Mass., has opened new offices in Decatur, Ala., and in Greenville, S. C. C. A. Mohler has been appointed manager of the Decatur branch, and W. W. Barron holds the position in Greenville. There are now six Foxboro offices in the Southeastern area, all under the direction of A. H. Shafer, whose headquarters are at Pittsburgh, Pa.

**Graton & Knight Co.**, Worcester, Mass., has appointed Frank A. Brede to the position of chief engineer of transmission and development in the research and development department at Worcester.

**Hart Products Corp.**, New York, has appointed Milton J. Greene New England sales and technical representative. Working out of New Bedford, Mass., Mr. Greene will be in charge of all sales in the territory.

**Holloway Mfg. Co.**, East Point, Ga., has been organized to handle textile specialties. The firm will concentrate on remodeling of spinning and twister frames; ball-bearing applications; and the application of pulley drives, aluminum separators, cylinder bearings, and chain drives.

**J. EBERT BUTTERWORTH has been elected president of H. W. Butterworth & Sons Co., Bethayres, Pa., succeeding Harry W. Butterworth, Jr., who is now chairman of the board.**

**L. W. Bishop**, president, Hunt Loom & Machine Works, Greenville, S. C., recently resigned to resume the directorship of the South Carolina Research, Planning, and Development Board at Columbia, S. C.

**Kearny Mfg. Co.**, Kearny, N. J., has made known that Herbert E. Kresge has rejoined the firm as first vice president and general manager. He was previously with the company from 1928 to 1942.

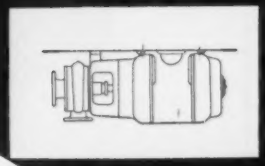
**Minneapolis-Honeywell Regulator Co.**, Philadelphia, Pa., has named John A. Robinson sales manager of the Eastern and Mid-Atlantic regions. Joseph J. Matubis has been appointed industrial manager for the Mid-West region, and C. G. Behnke has been made industrial manager at the Chicago branch office.

**J. C. Paddock Co.**, Spartanburg, S. C., has appointed W. S. Murphey Co., Atlanta, Ga., as its exclusive representative in Georgia, Alabama, Louisiana, and parts of Tennessee and Mississippi.

**Raybestos-Manhattan, Inc.**, Manheim, Pa., has let general contract to William F. Lotz,

# SQUEEZED FOR SPACE?

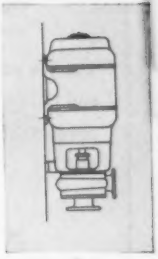
Fits anywhere —any way

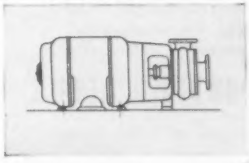


Upside down

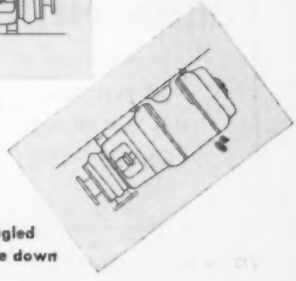
On an angle

Vertically





Horizontally



Angled upside down

***If plant expansion*** pains have you squeezed for floor space, Fairbanks-Morse *Builtogether* Centrifugal Pumps can help solve your problems.

These compact, efficient pumps can be mounted horizontally, vertically, or on an angle . . . on the floor or from the ceiling. Backed by the Fairbanks-Morse reputation for quality, these pumps will always deliver outstandingly dependable performance. An important extra advantage to you is the fact that both motor and pump are built by Fairbanks-Morse . . . your assurance of efficient service.

Fairbanks-Morse Builtogether Pumps are available in both single and two-stage models . . . in capacities up to 1000 gallons per minute against heads up to 550 feet. For complete information, see your local Fairbanks-Morse Branch, or write Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

**FAIRBANKS-MORSE,**

*a name worth remembering*

PUMPS · DIESEL LOCOMOTIVES AND ENGINES · ELECTRICAL MACHINERY · SCALES
HOME WATER SERVICE EQUIPMENT · RAIL CARS · FARM MACHINERY · MAGNETOS

*Good News* about

**GOLD AND SILVER PRINTING**

Many textile printers have been hesitant to try gold and silver printing. Others have tried, then given up, because of technical difficulties.

But by following these two steps, you can be sure of high, steady production . . . and *profits.*

**1.** Take advantage of our years of experience. As the result of hand-in-hand cooperation with the textile industry in America and in Europe, where gold and silver printing has been practiced successfully for decades, we can help you with all technical problems . . . can assure you of successful production. This help is yours for the asking.

**2.** Use powders made *especially* for textile printing, such as the famous MIRROR GOLD made by Atlantic. Developed throughout many years of experience, Atlantic Powders are compounded for dependable results on any fabric . . . are highly brilliant and tarnish resistant.

Yes, you can get your share of the profits in GOLD and SILVER printing. There is no shortage of powders, so act now, while consumer demand is high.

*Write, wire, or phone for further information, without obligation.*

**ATLANTIC POWDERED METALS, INC.**

38 Park Row,
New York 38, N. Y.
COrtlandt 7-7395

ATLANTIC BRONZE POWDER POWDERED METALS INC.


## *News About* SUPPLIERS (Continued)

E. STEPHEN FARLOW (left) has been made office manager of Sterling Electric Motors, Inc., in their new Baltimore, Md., sales office. CARL E. JOHNSON (right) chairman of the board of Sterling, has just been awarded a fifty-year-service certificate.

Philadelphia, Pa., for a one-story 80x143-ft. addition to the mill and a 56x56-ft. extension in the boiler house. Cost is reported close to $165,000, with equipment.

**C. G. Sargent's Sons Corp.,** Graniteville, Mass., celebrates 100 years of service to the textile industry this year. Charles G. Sargent founded the business in June, 1852.

**SKF Industries, Inc.,** has opened a new office and warehouse at 1375 Spring St., N. W., Atlanta, Ga. The new location was chosen so that the company can better supply expanding Southern industries.

**Standard Mills Supply, Inc.,** Charlotte, N. C., has added William S. Johnstone to its staff as sales representative in Georgia and South Carolina. J. Kenneth Sumner has been promoted to sales manager at Charlotte.

**U. S. Bobbin & Shuttle Co.,** Lawrence, Mass., has appointed Lewis C. Briggs III, sales manager.

**Universal Winding Co.,** Providence, R. I., has transferred Frederick J. Barrows to its Atlanta, Ga., sales office to assist Jesse W. Stribling, manager.

**Warren Steam Pipe Co., Inc.,** Warren, Mass., has appointed Stephen C. May as Atlanta, Ga., sales agent. He will service Georgia, South Carolina, and parts of Florida, North Carolina, and Tennessee.

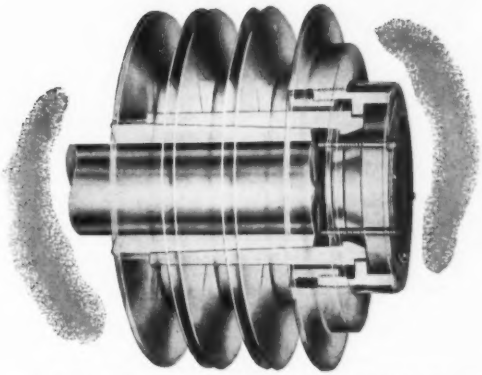
**Yale & Towne Mfg. Co.,** Philadelphia, Pa., has appointed O. S. Carliss director of engineering and George F. Quayle as assistant director of engineering.

### Chemical and Yarn Suppliers

**American Cyanamid Co.,** New York, has named Dr. Nolan B. Sommer supervisor of new-product development. Calco Chemical Division has obtained a new director of chemical research in the person of Dr. Robert P. Parker. Dr. J. J. Denton has succeeded Dr. Parker as assistant director of Chemical research in charge of the pharmaceutical section. The company will build a plant near New Orleans, La., for the production of chemicals from natural gas. About $50,000,000 will be invested in the facilities, to be located on a 600-acre site on the west bank of the Mississippi River. The plant will produce ammonia, acetylene, hydrocyanic acid, and derivatives of these products, among them acrylonitrile and ammonium sulfate.

**Carbide & Carbon Chemicals Co.,** New York, has obtained the services of John S. McGilly, who has been made a technical representative in the

# Let's get our heads together about speed control — and PROFIT!



American Adjustable-Speed Drives are available in A, B, C, Q, and R Sections Grooves

When the competition is tough—there's a lot of profit in that final extra production from every machine in a shop. And that extra production—that touch of gold—is what we'd like to talk over with you.

The American Adjustable-Speed line can add that touch of gold to your production . . . quickly, easily, inexpensively. YOU GET:

**• Precision Speed Control • High Production at minimum capital and maintenance cost • Better quality control • Flexibility to meet variations in rated motor speeds or calculated speeds of belt drives**

American's exclusive double-taper hub construction maintains speeds at your selected setting and long life of sheave and belts. Sleeves expand to lock flanges in position and the sheave to the shaft during operation . . . there's no chance for wear. Installation or removal is no problem . . . tapered bushings make American Adjustable-Speed Sheaves easy on and easy off the shaft.

Get the profit story of the American Adjustable-Speed line and see how it can help you to more profit. You're not obligated when you clip and mail the coupon today.

## Other Products

Speed Reducers and Overload Releases

Econ-O-Matic Motor Bases

Multiple-Groove Wedg-Tite Sheaves

Wedgbelts

Steel Split Pulleys

Hi-Torque Motor Pulleys

Individual Cotton Card Drives

***At the profit end of the machine***

**Power Transmission by**

# AMERICAN

**PULLEY COMPANY**

**THE AMERICAN PULLEY COMPANY**
4226 Wissahickon Ave., Philadelphia 29, Pa.

Gentlemen:

Please rush me your bulletin on the American Adjustable-Speed line.

*Name*_____

*Address*_____

*City*_____ *Zone* ____ *State*_____

# FOR SAFETY IT'S WISE to DESIZE with EXSIZE-T

Even the sheerest, most delicate fabrics are desized with perfect safety by Exsize-T! That's why Exsize-T is used by many of the largest textile finishers.

Exsize-T is *not* a chemical—but a liquid enzyme concentrate. Efficient. Economical.

***Write for free booklet.***

PABST BREWERIES

"Exsize-T" is the registered trademark of Pabst Brewing Company.

**PABST SALES COMPANY**

**221 N. La Salle Street**

**CHICAGO 1, ILLINOIS**

*Copr. 1952, Pabst Brewing Company, Milwaukee, Wisconsin.




## *News About* SUPPLIERS (Continued)

**LYLE H. YORK (left) has become manager of the Cleveland office of A. E. Staley Mfg. Co., Decatur, Ill. HARRY J. REAVIS (right) holds the same position in Philadelphia, Pa.**

textile-fibers department. He was formerly with the Du Pont Company.

**Diamond Alkali Co.**, Cleveland, Ohio, has decided to postpone further construction on its $12-million plant at Painesville, Ohio, to concentrate on expansion of the Houston, Tex., plant for production of perchlorethylene.

**E. I. du Pont de Nemours & Co., Inc.**, Wilmington, Del., has announced the retirement of Charles M. Switzer, director of the nylon-manufacturing division of the textile-fibers department. He is succeeded by George E. McClellan. David L. Lewis, Jr. nylon district sales manager at Charlotte, N. C., has been promoted to personnel manager of the sales divisions of the textile-fibers department at Wilmington. James W. Mitchell succeeds him at Charlotte.

**Felt Products Mfg. Co.**, Chicago, Ill., has tentative plans for a new one-story mill, containing about 75,000 sq. ft. of floor space, on McCormick Blvd., Skokie, Ill. At a later date, an adjoining structure of about 140,000 sq. ft. will be built. The initial mill is reported to cost over $200,000, with equipment.

**General Dyestuff Corp.**, New York, has elected S. H. Williams a vice president, and also general sales manager for the company. Inventor of the Williams unit and a pioneer in the continuous hot-oil-bath process, Mr. Williams was for 10 years manager of the company's Charlotte, N. C., office. He is succeeded in Charlotte by C. C. Cayce, former assistant manager.

**B. F. Goodrich Chemical Co.**, Cleveland, Ohio, has appointed Orville E. Isenburg its international sales manager, succeeding James C. Richards, now vice president in charge of sales. Mr. Isenburg joined the company in 1941 and last year attended the advanced management-training course at Harvard Business School.

**W. C. Hardesty Co.**, New Toronto, Ont., has completed its new plant for the hydrogenation of fatty acids and glycerides. This is the first plant of the kind in Canada.

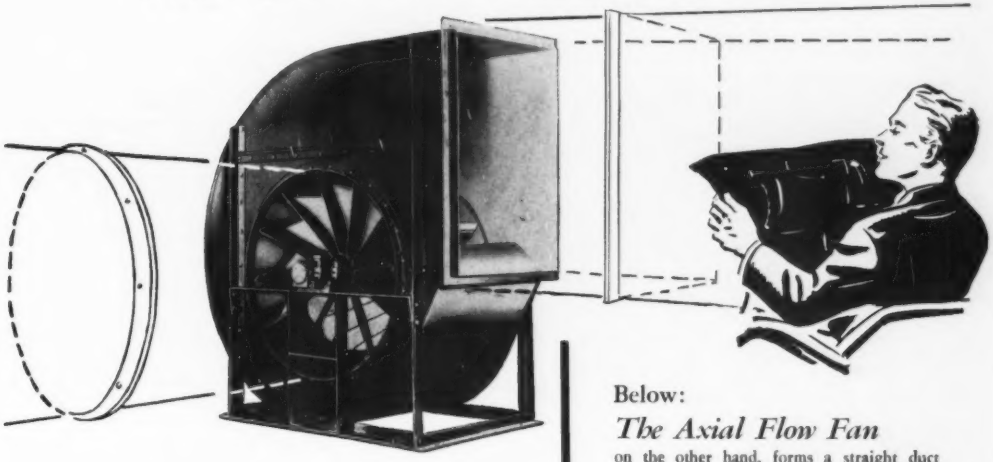
**Industrial Rayon Corp.**, Cleveland, Ohio, has appointed Dr. G. S. Hooper to the position of high-polymer laboratory manager, succeeding Dr. H. A. Bruson.

**Libby-Owens-Ford Glass Co.**, Toledo, Ohio, has established in Chicago, Ill., a second special district-sales office for the fiber-glass division. The

**FRED T. EKSTRAND has been appointed to the sales staff of Emery Industries, Inc. He will handle chemical sales from their Philadelphia, Pa., office.**

"Buffalo" *Tips on Getting the Best Service from your* **Fans**

# *Pick The Fan To Suit The Plan!*



## The CENTRIFUGAL FAN Is A Built-in 90° Elbow

Since air leaves the centrifugal fan in a direction vertical to that of the entering air, the logical location of the fan is where a 90° turn in the duct is planned. This takes advantage of the natural right-angle change in direction of the air and does not sacrifice efficiency, as in forcing air through an ordinary elbow. "Buffalo" Limit-Load centrifugal fans like the one shown above have features for additional efficiency and quiet, such as double backward curve blades, directional inlet vanes, specially shaped housing and dynamically balanced wheels. Medium speed fans, they are ideal for handling large volumes of air at medium pressures. They have the additional advantage of being non-overloading, regardless of system pressure.

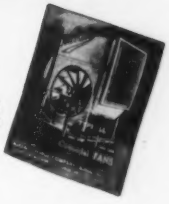
Below:

*The Axial Flow Fan*

on the other hand, forms a straight duct section, and mounts compactly in straight piping. For complete information on "Buffalo" Axial Flow Fans, write for Bulletin 3533-C.

**TO HELP YOU SELECT THE RIGHT FAN—**

Bulletin 3737 gives construction and performance data on "Buffalo" Limit-Load Fans. *WRITE FOR YOUR COPY.*



"Buffalo" **FIRST FOR FANS**

**BUFFALO FORGE COMPANY**

184 MORTIMER ST. BUFFALO, NEW YORK

*PUBLISHERS OF "FAN ENGINEERING" HANDBOOK*

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

| | | | | |
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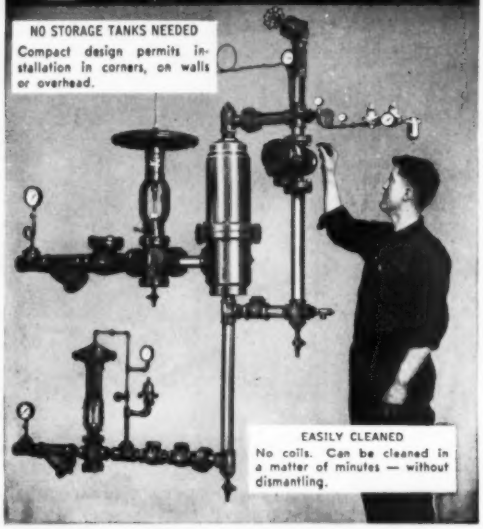
| VENTILATING | AIR CLEANING | AIR TEMPERING | INDUCED DRAFT | EXHAUSTING |
| FORCED DRAFT | COOLING | HEATING | PRESSURE BLOWING | |

TEMPERATURE CONTROL
IS ESSENTIAL
in
BLEACHING and DYEING


NO STORAGE TANKS NEEDED
Compact design permits installation in corners, on walls or overhead.
EASILY CLEANED
No coils. Can be cleaned in a matter of minutes — without dismantling.

Pick INSTANTANEOUS WATER HEATERS
provide
ACCURATE CONTROL + REQUIRED VOLUME
HEATS WATER INSTANTLY

PICK Heaters are entirely automatic to provide and accurately maintain water temperatures up to 180° F. Water is heated instantly—by steam injection. Exclusive Pressurizer Piston eliminates pipe hammering and shaking. Installation is simple, requiring only ordinary pipe connections. Available in seven sizes with rated capacities of 10 to 200 gallons per minute.

USED BY
Exeter Manufacturing Co.
Kerriglen Finishing Co.
Guyan Mills
Jordan Manufacturing Co.
Pepperell Mfg. Co.
AND MANY OTHERS

*Write Dept. TW3 for Details and Specifications*

MANUFACTURED BY
PICK MANUFACTURING CO.
WEST BEND, WISCONSIN, U.S.A.

# *News About* SUPPLIERS (Continued)

new office is in charge of Mark Joseph Wells, who will work closely with W. L. Slater, district industrial manager.

**Minnesota Mining & Mfg. Co.**, St. Paul, Minn., has named Dr. Charles W. Walton general manager of the adhesives and coatings division. He succeeds Louis F. Weyand, who recently moved up to executive vice-president in charge of tape operations.

**Monsanto Chemical Co.**, St. Louis, Mo., has expanded facilities for the production of benzoic acid at its John F. Queeny plant. The new plant will synthesize the acid from basic raw materials, the first such operation in the U. S.

**Montreal Swiss Embroidery Works Ltd.**, Montreal, will build a plant and offices at 1443-69 Balmoral St., Montreal. J. Springer is president.

**Sendel & Sendel Ltd.**, jute rope manufacturers, Montreal, has let a contract for erection of a $55,000 addition to its plant at 711 Common Street, Montreal. The architect is Greenspoon, Freedlander & Dunne, and the general contractor is B. Kaplan Construction Co., both of Montreal.

**Stein, Hall & Co., Inc.**, New York, recently gave a farewell luncheon to a 40-year veteran, Walter R. Shepperd, who has been known to the company's Eastern customers since 1912.

**Union Carbide & Carbon Corp.**, New York, announced several changes recently in the higher echelons: Morse G. Dial is now president; Fred H. Haggerson, chairman of the board; Walter E. Remmers, vice-president, Alloys Div.; and Kenneth H. Hannan, treasurer.

## Other Services

**Delta Kappa Phi Fraternity** elected new national officers at the Philadelphia convention. A. Ward France was elected Supreme Consul; Henry A. Rutherford, Supreme Pro-Consul; Clifford M. Gilpin, Jr., Supreme Annotator; Stanley A. Pokalow, Jr., Supreme Custodian. Philadelphia Textile Institute was host to the group.

**Fresno, Calif.**, has been designated as a bona fide cotton spot market under the Cotton Futures Act, as amended. Fresno is the first market in the Far-Western cotton-producing states to receive this recognition. Like Lubbock, Fresno will be a bona fide market, but will not be one of the ten designated markets whose price differences are used in settlement of futures contracts.

**National Knitted Outerwear Assn.**, New York, has reelected Milton Davis, Yorkshire Knitting Co., as president for the third successive year. All other officers were reelected.

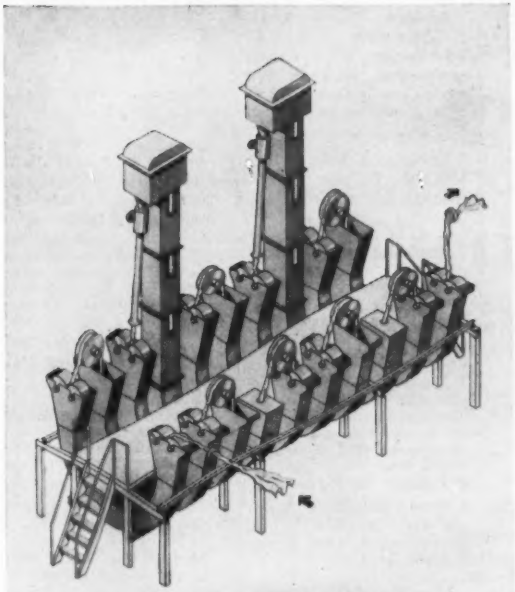
**Quartermaster Generals Office**, U. S. Army, announces the assignment of Dr. Ralph G. H. Siu to the post of associate technical director of the research and development division.

**J. O. Ross Engineering Corp.**, Highland Park, N. J., opened officially as a third member of the Ross group. Over 500 invited guests attended the celebration and were welcomed by the founder. J. O. Ross.

**Star Woolen Co.**, Cohoes, N. Y., has begun a new service for textile mills—the analysis of textile fibers—without charge. Additional laboratory facilities recently completed and a desire to cooperate with mills have made this service possible.

**U. S. Testing Co., Inc.**, Hoboken, N. J., has announced its fifteenth summer refresher course in textiles and testing techniques to be conducted from July 7 to July 25, 1952, as part of Teachers College summer session, Columbia University. This is the third year Teachers College has accredited the course, held at Hoboken, for a 3-point credit toward a degree.

# NOW! A NEW CONTINUOUS BLEACHING SYSTEM AT A NEW LOW COST!



## DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEM TYPE 1000

Capacity . . . . . 750 to 1500 lbs./hr.
Speed . . . . . to 100 yards/minute

**NOTE:** The equipment illustrated above, which can be used in the Type 1000 System, is designed and sold by H. W. Butterworth & Sons Co., Bethayres, Pa. Other manufacturers also supply equipment for this system.

**The Du Pont Type 1000 Continuous Bleaching System** is an all-new peroxide bleaching system based upon time-proven bleaching principles. Designed specifically for plants processing from 750 to 1500 lbs. of cloth per hour on a full-production or specialty basis, the new system employs a compact two-stage bleaching range which is basically simple in design and construction . . . can be installed and operated at a surprisingly low cost. Here are the benefits the new system can bring to your bleaching operations:

**NEW ECONOMY** . . . Bleaching equipment is priced so low that it can usually pay for itself within two years through reduced operating cost and increased production.

**NEW CAPACITY** . . . With a capacity of 750-1500 lbs. of cloth/hr., the Type 1000 System meets the requirements of large mills for specialty work . . . is adequate for total production in many smaller mills. Cloth speed is up to 100 yds./minute. Goods in the 3-7 yds./lb. class can be handled.

**NEW EFFICIENCY** . . . The new system produces maximum yardage at lowest possible cost. Chemical and steam consumption are lowered by as much as 40%. One-man operation means exceptional savings in labor costs.

**NEW QUALITY** . . . Automatic operation permits close control of chemicals, steam and cloth speed. Because the system is continuous, every yard of cloth receives the same bleaching treatment for same length of time—resulting in finished goods of high uniformity and quality.

### SEND FOR THIS FREE BOOKLET!

It gives you complete information about the Type 1000 System . . . describes advantages, applications, steps of operation and equipment design. Send in the coupon below for your copy.

## DU PONT PEROXIDES
### *FOR TEXTILE BLEACHING*

Available in drums and tank cars { "Albone" 35 . . . Hydrogen Peroxide, 35% / "Albone" 50 . . . Hydrogen Peroxide, 50% }

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# how to prevent lead sulphide stains on viscose fiber

• • • Versene* (REGULAR)

**LEAD SULPHIDE SOLUBLE IN VERSENE***

Sulfuric acid, stored in lead, forms lead sulfate which usually deposits on the Viscose fiber as it is coagulated. If this lead is not removed, subsequent desulfurizing precipitates it as the black sulfide. This results in a grey-stained yarn. A Versene rinse can remove the lead at any time — if equipment for a recycled wash is available in the processing line.

**VERSENE* MAKES VISCOSE WHITE**

Lead compounds, including Lead Sulfide, are soluble in weakly acidic Versene solution. For maximum efficiency, the Versene should be used as a rinse after the acid-coagulating bath and before desulfurizing. The pH of the Versene should be approximately 5.5. Versene cannot be added to the acid-coagulating bath because the lead chelate (complex) of Versene will not be formed in strongly acid solutions. When properly used, Versene assures a *white* yarn.

**VERSENE* — WHAT IT IS**

Versene (regular) is one of a family of powerful organic complexing agents for the exacting chemical control of cations in solution. Known as ethylene diamine tetra acetic acid sodium salts, it has the ability to form soluble non-ionic chelates with polyvalent metallic ions. It permanently changes the character of these ions in solution. Amazingly stable at all temperatures and pH's, Versene is manufactured to highest specifications. Its uniform quality guarantees uniform results. Write Dept. D. Send for Technical Bulletin No. 2. Ask for sample.

**NEW VERSENE WATER TEST KIT.** Tells total hardness in two minutes. Accurate to one grain per gallon. Versenate Method. Complete Kit $5.00 Postpaid.

"INDUSTRY'S MOST MODERN CHEMICALS" *Trade Mark

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FRAMINGHAM, MASSACHUSETTS
Warehouse Stocks

Providence, R. I. — George Mann • New York (Brooklyn) — Siegel Chemical Co. Chicago — Kraft Chemical Co. • St. Louis, New Orleans, Dallas, Houston — Berada & Page • Charlotte, N. C. — Chas. S. Tanner Co.


## NEWS ABOUT Mills

### Cotton Mills

**Appleton Co.**, Anderson, S. C., has completed a $2,000,000 expansion and modernization program. The entire plant was air conditioned, and new lighting and equipment were installed.

**Carolinian Mills**, High Shoals, N. C., plans to build additions that will cost $885,000.

**Clinchfield Mfg. Co.**, Marion, N. C., will build plant additions costing $2,400,000.

**Cross Cotton Mills Co.**, Marion, N. C., is starting construction of a two-story, 78x167-ft. brick addition. Completion is scheduled for fall. The first floor of the addition will be used for rewinding and conditioning dyed yarns. The second story will be used for yarn storage. No increased production is planned. J. E. Sirrine Co., Greenville, S. C., prepared plans. Cost is estimated at $100,000.

**Dan River Mills**, Danville, Va., has several mill additions under way. Cost is reported to be $2,145,000.

**Dominion Textile Co.**, Montreal, Que., has installed 18 spinning frames manufactured by Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland, in its branch plant at Sherbrooke, Que. The new installation is part of an over-all long-term modernization program that has already cost $16,000,000. The company's Merchants Mill in Montreal is being modernized at a cost of around $3,000,000, including replacement of much existing machinery and mill-wide renovation of electrical facilities.

**Dundee Mills**, Griffin, Ga., will install about 5,000 spindles, 40 cards, and opening and winding machinery in a new three-story addition that will cost about $1,000,000. The new structure will be completely air conditioned.

**Gastonia Combed Yarn Corp.**, Gastonia, N. C., plans an addition that will cost about $800,000.

**Greenwood Mills**, Greenwood, S. C., will name its new $6,800,000 mill the Durst Plant in honor of William L. Durst, first president of Greenwood Cotton Mill, original plant of Greenwood Mills. The Durst Plant will be built on an 80-acre tract in Greenwood; the mill itself will cover about 8 acres. The one-story brick building will be windowless and air conditioned. Grading has begun on the site; and most of the machinery, including 1,500 Draper looms, is already on hand.

**Lockport Cotton Batting Co.**, Lockport, N. Y., is buying the batting, mattress pad, and quilting division of Rock River Cotton Co., Janesville, Wis. The division will be moved to Lockport.

**Monarch Rug Mills**, Dalton, Ga., will erect a 120x400-ft. plant in which to consolidate all the company's operations on cotton rugs and carpeting.

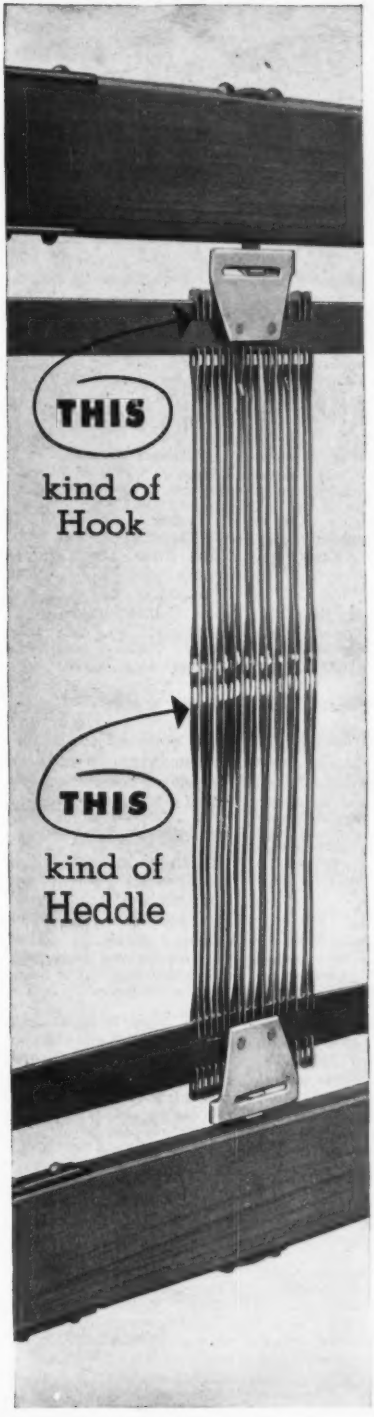
**Monument Mills**, Housatonic, Mass., is remodeling its dyehouse to house 84 new looms that will be operating on cotton duck by the end of June.

**Mooresville Mills**, Mooresville, N. C., expects to have its new weave room in full operation in September. Two hundred additional 72-inch Crompton & Knowles C-4 looms will bring the mill's total to 2,114.

**Opp-Micolas Mills**, Opp, Ala., has completed a new testing laboratory. Carlos White, formerly laboratory technician for Dundee Towel Co., Griffin, Ga., is in charge.

**Ottaray Mills**, Anderson, S. C., has transferred its cloth-room operations to the plant of its subsidiary, Haynsworth Mill, where 193 looms have also been added.

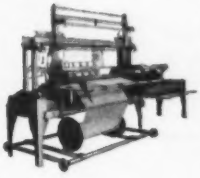
**Park Yarn Mills Co.**, Kings Mountain, N. C., has added 4,416 spindles, which brings




# You can improve your weaving **NOW** and be ready for a Warp Drawing Machine **LATER** if you will gradually re-equip with **FULL-FLOATING** type Harness Frames and key-hole type Heddles...

The Barber-Colman Warp Drawing Machine requires equipping your looms with harness having steel heddles of the type shown here, in order that the selecting mechanism may properly position the correct heddle eye for each drawing-in needle stroke. Also, these harness must have support bar hooks of the type shown, in order that the heddles may move freely the full length of the frame. The machine holds the heddles in a group, setting them off at proper intervals as each is drawn. This full-floating construction *improves weaving immediately* by removing restrictions and permitting each heddle to find its proper in-line position in the frame.

Now, the cost of such harness may amount to more than the cost of the Warp Drawing Machine. This should not discourage consideration of the machine, in view of the advantages of substantial cost savings in warp preparation. Since you are replacing heddles and harness frames frequently and constantly as they wear out — why not start *now* to replace with the type that can be used on a Barber-Colman Warp Drawing Machine? Then, when you are ready for the machine, the problem of special harness will have been solved. For details in connection with such a program, we suggest you consult your Barber-Colman representative.



Automatic Spoolers • Super-Speed Warpers • Warp Tying Machines • Drawing-In Machines

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SALES ANALYSIS and FORECASTING
SALES PLANNING and PROGRAMMING
SALES and OFFICE STANDARD PRACTICE INSTRUCTIONS
ORGANIZATION ANALYSIS PERSONNEL APPRAISAL

These services will be under the direction of Mr. Peter M. Fekula now affiliated with Barnes Textile Associates, Inc. They will complement our established consulting activities in the fields of general engineering, industrial engineering, cost and quality control, materials handling and industrial relations.

Mr. Fekula has had broad experience in a variety of industries in both consulting and operating capacities. Recently he completed an outstanding project for a well-known textile company which brought about close coordination of production and sales. He has been able to apply to textiles many of the principles which have proved so successful in the automotive and aircraft industries.

We will be pleased to give further information about the services rendered by our new Peter M. Fekula Division, as well as by our other departments.

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

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for use in shrinking fabrics to the *"Sanforized"* standard by the compressive shrinking process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

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KENWOOD TEXTILE PRODUCTS

**F. C. HUYCK & SONS**
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# *News About* MILLS (Continued)

the total number to 22,298. The project, costing about $500,000, is part of a modernization and expansion program that was started in 1948. New equipment was installed in a two-story building of brick and steel construction erected by Fiske-Carter Construction Co., Spartanburg, S. C.

**Powdrell & Alexander, Inc.,** No. 1 plant, Danielson, Conn., will continue in operation under new ownership. This spinning unit was one of those scheduled to be discontinued as part of the company's current consolidation of operations at New Bedford, Mass. The new owner, Robert W. Gould, purchasing agent for Powdrell & Alexander, will take over the plant with no interruption of production. This is the second manufacturing unit of Powdrell & Alexander at Danielson to be sold as a continuing business.

**Pyramid Mills, Inc.,** Gastonia, N. C., has been organized for the production of embroidery and knitting yarns.

**Stead & Miller,** Philadelphia, Pa., with a fabric mill at Concord, N. C., will be merged with Collins & Aikman Corp. Facilities of the North Carolina mill will enhance the latter's lines of upholstery fabrics.

**Texpack Ltd.,** Brantford, Ont., recently completed a new weave room providing 7,500 sq. ft. of floor space for the production of plain cotton dish toweling, dish cloths, and specialized industrial fabrics. A new one-story weave shed contains new machinery, including 10 Saurer single-shuttle automatic looms, Type 100W, and 1 Brugger Giromat winder.

**Thompson Textiles, Inc.,** Charlotte, N. C., is the new corporate name of A. H. Gocking Co., textile-waste firm.

**Wabasso Cotton Co. Ltd.,** Three Rivers, Que., has demolished part of its present office and is building a new office. Cost of the work is estimated at $15,000. General contractor is Deakin & Stuart Ltd., Montreal.

## Woolen and Worsted Mills

**American Woolen Co.** plant at Raleigh, N. C., has begun limited operations. Drawing operations and weaving of worsted cloth are currently operating. J. W. Thomas is manager of the plant, which has been set up in quarters formerly occupied by Premier Worsted Co.

**Appleton Woolen Mills,** Appleton, Wis., has let a contract to Hoffman Co., Appleton, for a new addition to the mill.

**Clinch Valley Blanket Mills, Inc.,** will be located at Cedar Bluff, in Tazewell County, Va., following incorporation. Stock to be issued will total $150,000 at $50 per share par value. The mill has not been operating lately and was recently sold by Reconstruction Finance Corp. to Dr. L. H. Armentrout, Jr. of Richlands, Va. The plant will manufacture blankets and other woolen materials.

**Collins & Aikman Corp.,** Bristol, R. I., is installing a $400,000 fine-goods finishing department in Plant J as part of its rehabilitation of the mill as a complete worsted-goods plant. New machinery has been purchased. Full operation hinges on the ability of machinery manufacturers to deliver on schedule. At present, the mill's output of some 400 pieces a week is finished at the company's plant in Philadelphia.

**La Filature d'Amboise Enrg.,** a new woolen yarn mill, has been established in St. Pascal, Que. The mill is operating 480 spindles, producing carded yarns for the open market. No dyeing and finishing is being done for the present.

**New Jersey Worsted Mills,** Passaic, N. J., officially changed its name to Gera Mills by stockholders' vote at its recent annual meeting. The corporation has for some years been a holding company of the Passaic plant known as Gera Mills.

**Geo. Pattinson & Co. Ltd.,** Preston, Ont., managed by R. H. Hillborn, has completed its extensive modernization program. New machinery includes 27 Crompton & Knowles 90-in. automatic looms, 4 Whitin Model-E winders, 2 Schweiter automatic winders, 1 Universal Rotocoiler, 1 Sellers shear, 1 Gessner press, 1 napping machine, and other equipment.

TC
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HIGHEST QUALITY
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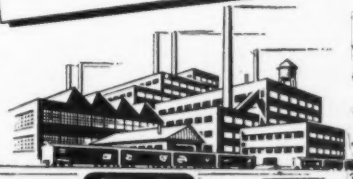
Tennessee Liquid Sulphur Dioxide—the chemical with hundreds of uses is now available in Cylinders, Ton Drums, Truck Tanks and Tank Cars. The Tennessee Corporation, producers of highest quality Sulphur Dioxide is located in the great Textile producing area assuring closer contact and speedier more efficient service.

Let us consult with you on the many uses of Sulphur Dioxide. Perhaps Sulphur Dioxide can solve some of your problems . . . 'phone, wire or write Tennessee Corporation, Grant Building, Atlanta, Georgia.



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School Daze!

Just because that bathing suit is proper at the beach, she shouldn't assume it's proper for the classroom, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

**OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little.***

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

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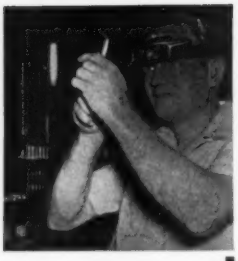

In the Durham Hosiery Mills—Straightening needles is one of many uses for Magni-Focuser in textile mills.

# People work better when they SEE BETTER

*Magni-Focuser helps Menders, Fixers, Knitters, Mechanics, Inspectors*

IN leading textile plants, Magni-Focuser — the binocular magnifier—reduces eye strain and prevents squinting—thereby speeding production, increasing accuracy and minimizing the chance of errors and accidents. Especially valuable in working on 60 gauge, 15 denier yarn. Restores the usefulness of the skilled hands of many older workers whose vision needs a seeing aid.

**Leaves both hands free to work**

Matched prismatic lenses assure optical accuracy. Normal vision may be resumed by slightly lifting head. Can be worn with or without eye glasses. 10-day trial without obligation. Return if not satisfied. $10.50. Send for folder.

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**Plasgon**

**THE *Best* WAY TO ANCHOR LOOM PADS**

Plasgon is a strong adhesive that *stays flexible* . . . absorbs loom vibration and shocks without cracking. Easy to use, Plasgon holds loom pads steady . . . saves floors. Removes easily with alcohol.

***Write Today*** and we'll send you a large free tube of Plasgon . . . enough for several looms. Test Plasgon's advantages in your mill. *Specify color, Plasgon comes in black or white.*

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# *News About* **MILLS** (Continued)

**Peerless Textiles, Inc.**, Ellijoy, Ga., will begin construction of four identical plant buildings as soon as materials are assigned. A plot of 215 acres has been acquired. Each building will cost about $1,000,000 and will have 192,500 sq.ft. of floor space. John L. Hutcheson, Jr. of Peerless Woolen Mills, Rossville, Ga., is president of the company.

**Princeton Worsted Mills, Inc.**, Trenton, N. J., has broken ground for a new one-story mill at Kingstree, S. C., to be equipped for production of worsted fabrics. It is estimated to cost close to $1,100,000. The Trenton plant will be continued in operation.

**Alexander Smith, Inc.**, Yonkers, N. Y., has installed equipment to make patented industrial felt called "Air Felt." The machinery lays completely random batt of short fibers that are a by-product of carpet manufacture. Frank H. Higgins has responsibility for the production and marketing of this felt.

**Springfield Woolen Mills**, Springfield, Tenn., plans a one-story addition to its present plant to be used for warehouse purposes. Building will be of brick veneer, 60x100 ft.

**G. Whitaker & Co. Ltd.**, Peterborough, Ont., is erecting a $30,000 warehouse for wool storage at its Auburn property. It will have 10,000 sq. ft. on the ground floor and in the basement.

## Synthetics Mills

**Aberfoyle Mfg. Co.**, Synthetics Div., Ranlo, N. C., has begun spinning Orlon staple yarns of 20s and 36s counts, single and plied. The firm is revamping its dyeing equipment. Natural, bleached, and dyed Orlon will be offered.

**Anchor-Rome Mills**, Rome, Ga., will construct mill additions costing $100,000. Robert & Co. Associates, Atlanta, Ga., is the architect-engineer.

**Burlington Mills Corp.**, Greensboro, N. C., plans to purchase National Mallison Fabrics Corp., New York, N. Y. Burlington has acquired the stock interests of two principal officers and will submit a proposal to the remaining stockholders for the rest of the stock. Burlington has given up its half-interest in Dominion Burlington Mills Ltd., of Montreal and Sherbrooke, Que., to its partner, Dominion Textiles Co. Ltd. Cetwick Plant, Asheboro, N. C., a unit of Burlington, has awarded a contract to Brooks Lumber Co., Greensboro, N. C., for construction of a 10,000-sq.-ft. addition. The building will be of brick and steel and is scheduled for completion by July.

**Guelph Yarns Div.**, Harding Carpets Ltd., Guelph, Ont., has completed an extensive modernization program. The synthetic-fibers section of the plant has been expanded following installation of one Pacific Converter and five double-head Warner & Swasey pin drafters. Many spinning machines have been changed to process synthetics. One spinning machine has been equipped with Pneumafil. Modernization of the dyehouse has been completed and the building extended to make room for a 1,000-lb. Pegg Pulsator dyeing kettle.

**Madison Throwing Co.**, Madison, N. C., is nearing completion of a major addition. The plant, which will cost $250,000, including machinery, will include an additional 20,000 sq. ft. for throwing nylon yarns for hosiery and tricot. The building will be a one-story structure equipped with temperature controls. The addition will increase production about 63%.

**Meridian, Miss.**—The city council has received permission from NPA to proceed with building the mill to be operated by Textron Mississippi, Inc., under lease.

**Stanwood Mills, Inc.**, which took over Willow Silk Co., Slatington, Pa., is preparing to begin operations. Former employees of the Willow plant have been engaged, and about 250 looms will be put into operation.

**Stonecutter Mills Corp.**, Spindale, N. C., is adding a new unit to produce about 25,000 lb. of spun yarn weekly. When the addition is completed, the company will employ another 60 persons.

# OUT IN FRONT

Illustration by courtesy of George Swindells & Sons Ltd. (Branch of The Fine Spinners and Doublers Ltd).

ERNEST SCRAGG & SONS LIMITED

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# This is the amazing "before-and-after" story

*Textile World, November, 1951*

**New Agents Clean Machine Parts by Cold Dipping**

BEFORE

AFTER

A remarkable cleaning job is claimed for Kleenapart and Kleenakarb, new cleaning agents developed by The Selig Co., 336-350 Marietta St., N.W., Atlanta 1, Ga. The agents will clean valves, gears, sprockets, frames, chains, screens, and all machine parts. The removal of oil, grease, dirt, grime, carbon, and other foreign matter is accomplished by a simple "cold dipping" process that requires no attention, it is claimed. Parts to be cleaned are simply immersed in Kleenapart or Kleenakarb for the required length of time, then removed, rinsed, and are ready for use or storage. Both products are listed by the Underwriters' Laboratories and are safe to use when directions are followed.

## that's told over and over again!

Selig's Kleenapart and Kleenakarb were originated to meet the exacting requirements of the aircraft industry. Peacetime industries, one after another, quickly grasped these amazing benefits: Complete removal of oil, grease, dirt, carbon and other foreign matter from metal parts by a simple "cold dip" process. Long life and low cost are included with the many advantages of using . . .

**Kleenapart-Kleenakarb**
**Clean Machine Parts by Cold Dipping**

*Manufactured only by*
**The Selig Co.**
*Manufacturing Chemists*
*Since 1896*

SELIG

ATLANTA
DALLAS HOUSTON
NEW ORLEANS

**ARE THESE NYLONS MADE FROM TWISTED YARN?**

When the customer asks that, chances are she'll *insist* on 15-deniers made from twisted nylon. And no wonder—twisted nylon gives her a great deal more stocking comfort, more stretch, more snag resistance, a duller finish and no wrinkling at the knees and ankles. When she *Insists on Twist*, be sure the nylon you used has been twisted—and ready to make the sale. Oscar Heineman can do it for you to perfection.

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*Division of Aetna Industrial Corporation*

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No adjustments to make...no filter to change when switching to wet pick-up work. Moisture in vacuum air stream cannot damage HILD Bi-Pass Motor. Special attachments for scores of clean-up jobs. Two sizes: 10 or 40 gallon liquid capacity.

SWEEPS
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OUR 25TH YEAR

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**HILD FLOOR MACHINE CO.**

740 W. Washington Blvd., Dept. TW-6 Chicago 6, Ill.


# *News About* **MILLS** (Continued)

## Knitting Mills

**Barry Knitting Mills, Inc.,** Philadelphia, Pa., has been formed as an associate to Streamline Knitting Mills, Philadelphia, with Jacob Bachove of Streamline, and William Bressler, formerly with Dorco Knitting Mills, serving as officers of the new firm. The new Barry plant occupies 8,000 sq. ft. of the Streamline building at 3245 Amber St. The firm will produce a line of polo shirts for men and juveniles, and women's nylon and worsted classic sweaters.

**Burlington Mills Corp.,** Greensboro, N. C., has acquired the property and assets of Sarfert Hosiery Co., Inc., Philadelphia, to supplement its line of men's and children's hosiery. Sarfert will be operated as an independent manufacturing and selling unit. William Sirota, one of the former owners, has been appointed president of the organization. Herbert Cohen is vice president in charge of manufacturing, and George Sundheimer is vice president and sales manager.

**Carthage Knitwear Corp.,** Philadelphia, Pa., has established a branch plant at Penndel, Pa., called Braeburn Knitting Mills, which will be devoted exclusively to the production of full-fashioned Glengarry sweaters. The new mill occupies a 30,000-sq. ft. area in a modern one-story building. It is equipped with 21-gauge machines of the latest type. About half of the equipment was purchased in this country and half imported from Scotland.

**Catawba Valley Finishing Co.,** Newton, N. C., will soon complete an adjoining new brick building equipped to knit anklets for boys and misses. The finishing plant will not only finish this hosiery but also take in custom finishing for other knitters. The new building is equipped with 150 Scott & Williams machines, including models B-5, HH, and spirals.

**Farmers Mill, Inc.,** Carrollton, Ga., plans an addition to be used as a knitting department. The mill will add 35 new circular-knit machines to give a total of 75 in operation to produce solid and striped crew socks.

**Fayetteville Knitting Mill,** Fayetteville, N. C., will double its present weekly capacity of 1,000 doz. pr. of full-fashioned nylon hosiery.

**Glenayr Knitting Mills,** Lanark, Ontario, will build an addition. The new structure will have 2,500 sq. ft. of floor space in which new knitting machines will be installed.

**Gotham Hosiery Co., Inc.,** New York, has leased a two-story building at Reading, Pa., and will set up a new nylon-tricot lingerie plant.

**Hamilton, Ala.**—Construction is under way on a $350,000 lingerie manufacturing plant that will be completed in nine months. The plant has been leased to Munsingwear, Inc., Minneapolis, Minn., and will be known as Marion Mills. The company plans to install $500,000 worth of machinery.

**Holeproof Hosiery Co.,** Milwaukee, Wis., plans to invest approximately $700,000 during 1952 in new plant and equipment, according to Gustave Frankel, president. In 1951, expenditures were $1,450,000; in 1950, $1,200,000. Mr. Frankel has predicted that 1952 sales figures will exceed those for 1951 if orders continue at the current rate.

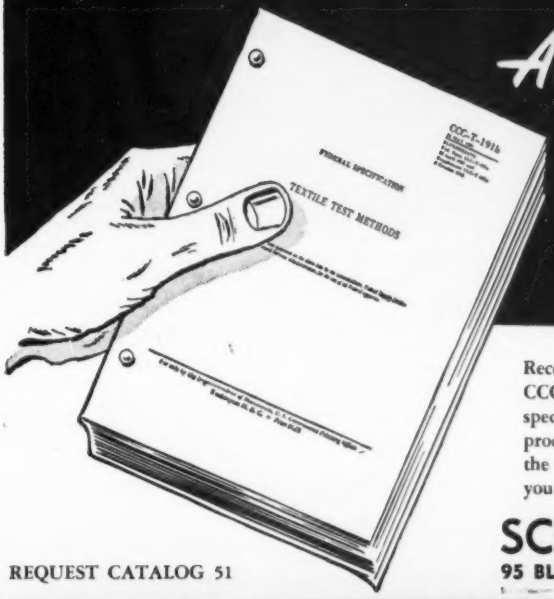
**Liberty Hosiery Mills,** Gem Plant, Gibsonville, N. C., is building an addition that will contain 10,000 sq. ft. of floor space. Estimated cost is $25,000.

**Lisle Mills,** Allentown, Pa., will take over a mill formerly owned by Julius Kayser & Co. Lisle plans to continue operations at its present site in addition to using the Kayser plant.

**Mock - Judson - Voerhringer Co.,** Greensboro, N. C., has let contracts for construction of a small warping and throwing plant in the Moffit Village section of Wilmington, adjacent to the Mojud tricot plant that began operations there in January, 1951. The plant will contain 8,500 sq. ft. of floor space.

**Montgomery Knitting Mills,** Summerville, Ga., has leased a hosiery mill at Centre, Ala., and has started operations.

# Adaptable to the new Federal Spex




Recently issued Government Specifications No. CCC-T-191b introduce or formalize numerous specific requirements for Textile constituents, processing and products. Scott Testers* perform the type of tests and furnish the type of readings you need to control and prove adherence to spex.

REQUEST CATALOG 51

**SCOTT TESTERS, INC.**
**95 BLACKSTONE ST. PROVIDENCE 5, R. I.**

*Scott Testers — Standard of the World*

# New Huffman Holder Licks Picker Problems!

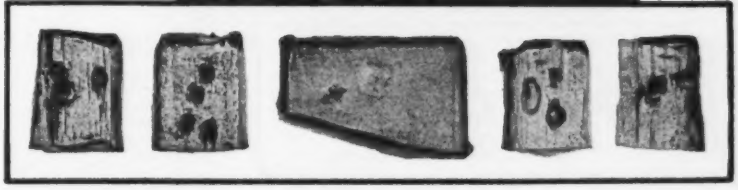
U. S. PAT. NO. 2,569,994

This shows how snugly the new Huffman interlocking metal holder bonds picker and picker stick. A simple turn of the socket wrench gives any desired adjustment. Cannot move or slip after adjustment.

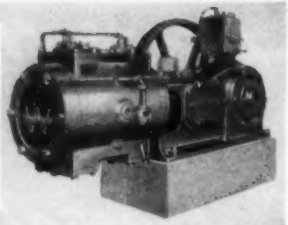
At last, an adjustable metal picker holder that holds pickers parallel with a bull-dog grip. Easily adjustable with socket wrench to any fraction of an inch. Interlocks picker and picker stick to greatly prolong life of both parts. Can be used over and over with our prepared sticks. Order today from . . .

**THE HARDWOOD MFG. CO.**
**P. O. Box 929 Greenville, S. C.**

Actual unretouched photos at right show damage caused to picker sticks and pickers by the old method of attaching and adjusting with common wood screws.



25 to 30 years' service and still going!



*Worthington standard water-cooled air compressors built for toughest service*

Yes, literally hundreds of Worthington water-cooled Type HB air compressors are still giving dependable service after 25 to 30 years' operation.

The HB's design tells why:

Heavily-ribbed, one-piece frame. One-piece crankshaft, counterbalanced, forged, heat-treated, machined and ground to precision limits. And, of course, the exclusive Worthington Feather* Valve—lightest, simplest, quietest, tightest valve ever made.

Get all the details. Write for Bulletin L-640-B1B to Worthington Corporation, Pump and Compressor Merchandising Division, Harrison, New Jersey.

*Reg. U. S. Pat. Off. PC.2.29

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Standard Compressors

CAMS with- Exclusive Features

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Sam Cam says:

From PRECISION only—exclusive formula, NON-SLOUGHING Cams (standard or special) for spinning and twisting—at no EXTRA COST—providing amazing, up-to-4 way, yarn control. Get "jewelled movement" ring rail reversing, longer lived accuracy—no sloppy backlash, due to Cams. Build firmer, longer running, higher speed bobbins. Cut your time and costs. No other cams are made with this mathematical accuracy. Write for our Cam Computation Chart and full information, now!

"The Cam House"

- Stock • Special • Duplicated
- Filling Wind (3 and 4 lobe)
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Face hardened Cast Iron or Alloy.

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PRECISION GEAR AND MACHINE CO.

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THE SOUTH'S LARGEST MANUFACTURER OF GEARS AND CHAIN DRIVES

# *News About* MILLS (Continued)

**Simplex Textiles Ltd.**, Prescott, Ont., knitter of nylon tricot, is planning to spend $50,000 for improvement of its finishing department. The knitting department has already been expanded by installation of three-bar tricot machines.

**South Pacific Textile Mills**, Los Angeles, Calif., has taken over a 16,000-sq. ft. building for the manufacture of wool jersey and synthetic fabrics. South Pacific is a new firm.

**Utica Knitting Co.**, Utica, N. Y., has changed management as the result of votes at the stockholders' meeting. Jerome A. Newman was elected chairman of the board, and his son, Howard Newman, was elected chairman of the executive committee. A successor to Earl W. Dunmore, former president and general manager, will be named later. The company's Anniston, Ala., plant is installing a new Proctor & Schwartz two-section loop dryer and additional finishing equipment. A new stainless-steel dye tub will be installed. Plans call for modernizing napping equipment and relocating the napping department to obtain straight-line production. The paper-box plant will be relocated and warehouse facilities increased.

## Dyeing and Finishing Plants

**American Thread Co.**, Sevier, N. C., has its new thread finishing plant well under way. The one-story plant is 1,320 ft. long and from 200 to 400 ft. wide. It will employ over 800 workers, and a training program for new employees will start in July. Production may start in late summer or early fall, but full operation is not expected before March, 1953. Harvey Eastman is general manager of plant. For other key employees, 16 houses are being erected in a wooded site near the plant.

**Catawba Valley Finishing Co.**, Newton, N. C., is constructing a new 12,000-sq. ft. building.

**Cone Finishing Co.**, Greenville, Miss., will build additions to the plant that will cost $400,000.

**Dominion Fabrics Ltd.**, Dunnville, Ont., has completed modernization of its dyehouse at a cost of about $125,000, including new machinery.

**J. T. Flagg Knitting Co.**, Florence, Ala., will establish a complete unit for bleaching, dyeing, and finishing knit fabrics. Cost is estimated at $250,000. Construction is expected to be completed by early summer. Robert & Co. Associates, Atlanta, Ga., is the engineer and architect. William S. Flannagan, plant engineer, will be in charge of the project. The present dyehouse and drying department will be discontinued, and these buildings will be used for expansion of sewing operations.

**Joanna Western Mills Co.**, Chicago, Ill., has let a contract to C. W. Haynes Co., Chicago, for a one-story addition containing about 23,000 sq. ft. of floor space.

**A. M. Perlman**, New York, textile converter for 26 years, is leaving that field to take over active management of five New England and New Jersey textile plants under a centralized organizational setup. The five companies are Paterson Textile Printers, Inc., Grant Fabrics Finishing Corp., and National Textile Printers, Inc., all of Paterson, N. J.; Fawcett Mills of New Bedford, Mass.; and Star Rayon Mills, Fall River, Mass. The companies will be unified under a single organization with headquarters in the present New York office of the former converting firm, A. M. Perlman, Inc., with Mr. Perlman as president. The combined companies now have a printing capacity of 1,000,000 yds. per week. Emphasis will be on synthetic fabrics, and a substantial expansion program will be undertaken.

**Pinatel Piece Dye Works**, Joliette, Que., recently completed a major expansion program at its plant. Addition of new equipment and machinery has increased productive capacity of the plant over 100,000 yd. a day. New equipment includes two large dye boxes, a Van Vlaanderen drying frame, a decatizing unit, and a calender for wide piece goods.

**Yates Bleachery Co.**, Flintstone, Ga., is building plant additions costing $100,000.

# Here's real proof that Oakite steam-cleaning cuts time and costs

CLEANING diesel engine radiators by hand in a Pennsylvania mill used to take four hours per radiator. Now the job is done in half an hour with the Oakite 384 Steam-Gun and an Oakite alkaline detergent. Cleaning dye vats with caustic in a Connecticut mill cost $25. Now Oakite Penetrant, in the Oakite Steam-Gun, does a better job, and cuts costs to less than $10.

Try Oakite Steam-Cleaning on your tough jobs. Write Oakite Products, Inc., 42 Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

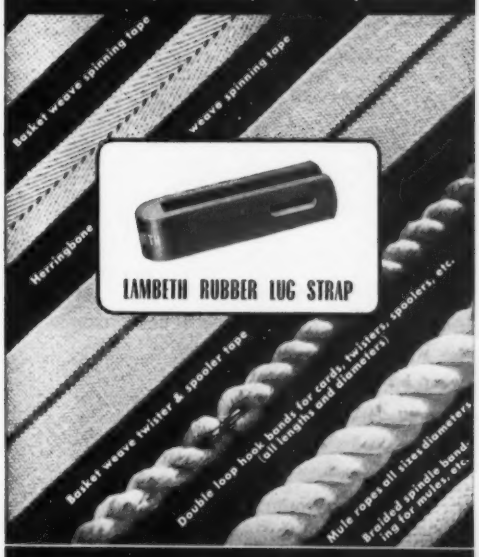
**OAKITE**

TRADE MARK REG. U. S. PAT. OFF.

MATERIALS • METHODS • SERVICE

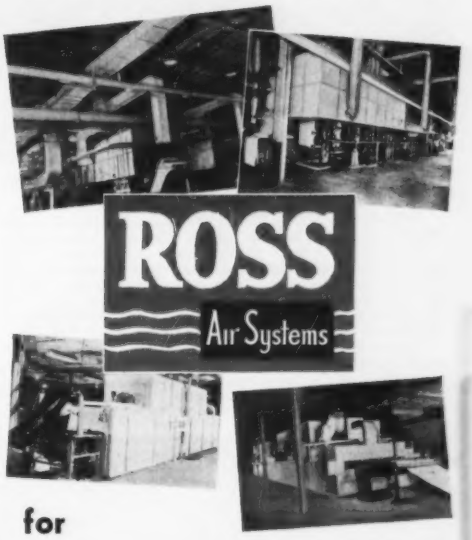
*Technical Service Representatives in Principal Cities of U. S. & Canada*

**LAMBETH PRODUCTS**
**FOR SPINNING, TWISTING, SPOOLING, WEAVING**


Basket weave spinning tape
weave spinning tape
Herringbone
LAMBETH RUBBER LUG STRAP
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Braided spindle banding for mulers etc.
Mule ropes all sizes diameters

**LAMBETH ROPE CORPORATION**
Plants at New Bedford, Mass. and Kings Mountain, N. C.

# The Industry's Leading Finishing Plants Operate

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**HEATING VENTILATING**
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Each new installation of the modern ROSS Air Systems throughout the textile industry further testifies to their effectiveness in achieving greater production efficiency and operating economies. They are fast becoming standard equipment for confining and removing vapors, to speed drying, to prevent spoilage from condensation, to eliminate fog, to provide comfortably cooled working areas and similar requirements. Investigate the possibilities for your plant.

**Write For This 20 Page BULLETIN 30**

Fully illustrated, it describes ROSS Systems for various departments.

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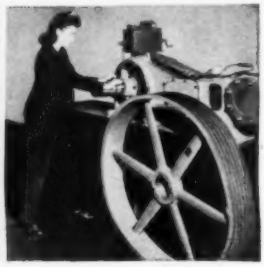
*CARRIER ROSS ENGINEERING COMPANY, LTD., LONDON, ENGLAND*

QD
Trade Mark
Sheaves



## No alignment problems here

This slim girl is tightening the tapered split hub of the Worthington QD Sheave on the shaft of a big machine. The 48 in. rim she'll place on the hub (with the aid of a hoist) weighs 440 lbs, about four times her own weight. But she won't have to do any difficult juggling to mount the big sheave with the large end of the taper bore over the small end of the taper cone QD hub. She's already taken care of alignment with the hub.

And if drive arrangements are changed later, it will be easy to remove the sheave and place another size on the same hub. Write for more information to Worthington Corporation, formerly Worthington Pump and Machinery Corporation, Multi-V-Drive Sales Division, Buffalo, N.Y.

WORTHINGTON
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## Need a Special Kind of Marking Crayon?

**Tell us your problem—
we're used to solving every kind!**

STAONAL® marking and checking crayons are waterproof, permanent, or semi-permanent as required. Black, white or colors. All laboratory checked for top performance. All absolutely gritless.

# STAONAL®
## MARKING CRAYONS

**TEXTILE MILL CHALK CRAYON.** For chlorine or peroxide bleaching processes. Wide color range. 4" x 1".

**SPECIAL SILK MARKING CRAYON NO. 295.** For silk, rayon, etc. Washes. 9 colors.

**BINNEY & SMITH CO.**
41 E. 42nd St., New York 17, N. Y.

**FUGITIVE RUBBER MARKING CRAYON NO. 111.** For uncured rubber. Marks disappear under heat.

**WHITE CHALK NO. 307.** 3⅛" tapered sticks of intense whiteness.

**Send Today** for illustrated salesman's price sheet and catalog to Dept. TTW.

## NEWS ABOUT Men

**William Alexander** has resigned as executive vice president and secretary of Mercury Mills Ltd., Hamilton, Ont.

**Earle W. Allen** has been elected a director of Botany Mills, Inc., Passaic, N. J., to succeed the late **Clarke W. Tobin. Charles F. H. Johnson, Jr.**, vice president and general manager, was elected executive vice president. **Paul Priber** was named assistant treasurer.

**Floyd Anderson** has been promoted from assistant overseer to overseer of dyeing at Empire Worsted Mills, Inc., Jamestown, N. Y., succeeding the late **Walter Crocker.**

**Reuben Benjamin** has been named assistant to the president in charge of production for Diamond Hosiery Mills, Philadelphia, Pa.

**Melvin Bernard** has become overseer of carding at Seymour Woolen Mills, Seymour, Ind.

**Paul Boissant** has been appointed superintendent of Danan Mills, Inc., Nashua, N. H.

**George A. Botts** has resigned as superintendent of Kennebec Mills of American Woolen Co., Fairfield, Me.

**Ellis W. Brewster** has been named chairman of the board of Plymouth Cordage Co., Welland, Ont., succeeding the late **Augustus P. Loring, Jr.** Mr. Brewster was president and treasurer and will continue in the latter position. **Edwin G. Roos**, former vice president in charge of sales, is now president and chief executive officer.

**Thomas Bruce** has been named assistant resident manager of M. T. Stevens & Sons, Dublin Mills, Dublin, Ga.

**George Buxton** has become overseer of worsted carding and combing at Arms Textile Mfg. Co., Manchester, N. H. **Gordon Gaunt**, night superintendent, has resigned. **George Nanos** has become assistant plant manager.

**J. M. CHEATHAM, president of Dundee Mills, Rushton Cotton Mills, and Lowell Bleachery South, Griffin, Ga., and of Hartwell Mills, Hartwell and Toccoa, Ga., was elected president of the Cotton Manufacturers Assn. of Georgia at the group's annual convention at Boca Raton, Fla.**

**J. V. Cobb** has resigned as superintendent of Norwich Woolen Mills, Inc., Norwich, Conn.

**Jerome T. Collins**, superintendent of the Greensboro, N. C., plant of Mock-Judson-Voehringer Co., Greensboro, N. C., has been elected a vice president of the company and will be in charge of mill operations. He has been with the company since March, 1942.

**Frederick C. R. Conway**, formerly with Chipman-Holton Knitting Co. Ltd., Hamilton, has been named head hosiery dyer of Globe Processing Ltd., Montreal, Que., succeeding the late **Franklin P. Selby.**

**A. Corbett** has become overseer of carding and spinning for J. O. Ballard Co., Malone, N. Y.

**Jarvis Cromwell**, board chairman of William Iselin & Co., Inc., New York, N. Y., has been elected a director of Alexander Smith, Inc., Yonkers, N. Y.

# SEWING MACHINE SUPPLIES

1 2 3 4 5

No. 1. Left-hand Singer-type Looper.

No. 2. Regular Left-hand Dinsmore Looper.

No. 3. Regular Right-hand Singer Looper.

No. 4. A long-throw Looper used on some types of machines.

No. 5. Standard Dinsmore Looper. Its special design makes it superior to any other Looper manufactured.

*The Hook or Looper* is the most important part of a Chain-stitch Sewing Machine. Our looper is made from high-grade steel. A slight deviation in *the shape*, either at the heel or point, will cause much trouble.

*The Tempering* is also important. If too hard, the point will be easily broken. If too soft, it will soon wear out. We can supply loopers that meet all requirements for good work and long wear.

Needles — Thread — Repair Parts for all our Machines.

***Write for Complete Catalog***

Makers of Piece-end Sewing Machines for Over Seventy Years

**DINSMORE MFG. CO.**

Salem Box 267 Mass.



STAINLESS STEEL

# SMALL WARE

FOR THE DYEHOUSE

***Ruggedly Built for SEVERE SERVICE***

**Welded, reinforced construction gives Blickman small ware extra durability to withstand hard daily use in the busy dyehouse. For sizes and specifications send for our small ware circular.**

**STAINLESS STEEL PAILS**
Built to take a beating. Welded construction for extra strength. Round corners for easy, thorough cleaning. Made of #18 gauge stainless steel for corrosion resistance. Ears are formed under rolled rim of the pail and transmit part of the load to the rim. Capacity to 20 quarts. Write for Bulletin 7028.

**STAINLESS STEEL BUCKETS**
Easy to clean. For extra strength quarter inch thick reinforcing bands are welded at top and bottom. Handles of ½ inch diameter mild steel rod are welded to upper reinforcing band. Round corner bottom speeds cleaning. Built of heavy gauge stainless steel. Capacity to 100 gallons. Send for Bulletin 7029.

**STAINLESS STEEL DIPPERS**
Made to withstand rough handling. Hemispherical bowl of #16 gauge 18-8 stainless steel with #16 gauge stainless tapered handle-socket welded on. Capacities 1 pint to 4 quarts. Handle of 4 quart size reinforced. Send for Bulletin 7030.

Write for further information

**S. BLICKMAN, INC.** 406 Gregory Ave. Weehawken, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks.



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CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim

PAINT OVER RUST WITH TYGORUST!

"the 'no-prep' vinyl primer"

- minimizes surface preparation
- goes under any type finish
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- inhibits rust formation

TYGORUST is a new and unique primer specifically developed to permit the use of TYGON and other vinyl based coatings on rusted ferrous metals. Its outstanding features include easy application — fast drying — high coverage — excellent adhesion to wet or dry rusted steel, wood, concrete, or previously painted surfaces — excellent adhesion for vinyl, nitrocellulose, alkyd, oleoresinous, or bituminous finishes—and, real resistance to rust formation.

Write for details today — try TYGORUST tomorrow!

U. S. STONEWARE CO.
Akron 9, Ohio

"I Want UNIFORM QUALITY"

"I Want COMPLETE STOCK"

"I Want QUICK SERVICE"

TON-TEX BELTING Satisfies All!

- Loom Harness Strapping
- Transmission and Conveyor Belting
- Mechanical Specialties
- Ve-E-zy Segmatic V-Belting
- Lapless Endless, Spinner, and Coner Belts
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BOSTON 10, MASS.
122 Pearl St.
26 Years Serving Industry


# *News About* **MEN** (Continued)

**Arthur Crossley**, manager of St. Croix Mill, Milltown, N. B., has resigned.

**Walter Cummings**, who has been superintendent of the Sawyer Mill of American Woolen Co., Dover, N. H., has been transferred to the Baltic Mill of the same company, Enfield, N. H.

**Leo Cyr** has become overseer of weaving at York Div., Bates Mfg. Co., Saco, Me.

**Joseph G. Duffy** has been appointed sales manager of Wamesit Wool Co., Wamesit, Mass. Wamesit has lately been appointed New England representative for Railway Supply Co., Cincinnati, Ohio.

**K. Everett** has resigned as assistant superintendent and chemist for Powdrell & Alexander, Inc., Danielson, Conn.

**Roland Ferron** has resigned his position in charge of quality control at Cheney Bros., Manchester, Conn., to join the sales-development department of Lees Mfg. Co., Inc., Westport, Conn.

**Benjamin Fisher** was elected secretary and clerk of Kendall Co., Walpole, Mass., succeeding **James A. Valentine**, who continues as director. Mr. Fisher continues as assistant treasurer.

**Theodore A. Fournier**, formerly with Textron, Inc., Manchester, N. H., has been appointed superintendent of Coaticook Textiles Ltd., Coaticook, Que. He joined the company in the latter part of 1951.

**Marshall Gardner** has been made manager of the Print Works Plant of Cone Finishing Co., Greensboro, N. C. **Gordie Boyd** was named superintendent to succeed Mr. Gardner, and **George Brandt, Jr.**, has been made assistant superintendent to succeed Mr. Boyd. **Roy Phillips** succeeds Mr. Brandt as head of the color shop.

**E. J. Gernt**, manager of Luray Textile Div. of Schwarzenbach-Huber Co., Luray, Va., has been promoted to general manager of the Luray plant and Front Royal plant, Luray, Va.

**RICHARD M. BARNHOLT, has been appointed sales manager of Triangle Finishing Corp., Johnstown, N. Y. He had been associated with M.K.M. Knitting Mills, Inc., since 1945, and before that was with E. I. du Pont de Nemours & Co., Inc., where he was associated with the original nylon research program.**

**Mark A. Goldbrick, Jr.**, has resigned as consulting engineer for Providence Dyeing, Bleaching & Calendering Co., Providence, R. I., and has become plant engineer at Eddystone Mfg. Co., Eddystone, Pa.

**Walter Gosnell**, formerly superintendent of the Saxon Plant of Reeves Bros., Inc., has been made general superintendent of Eagle & Phenix Mills division in Columbus, Ga.

**Robert E. Gregg** has been elected divisional vice president of Kendall Mills. He will continue as general sales manager with headquarters at the Walpole, Mass., sales office.

**Gregory Harris**, of Milwaukee, Wis., has become secretary of Rockwood Mills, Rockwood, Tenn., succeeding **Charlie R. Tallent**, who has resigned after serving as secretary and chief accounting officer for more than 20 years. Mr. Harris had been with Phoenix Hosiery Co., Milwaukee, Wis., for more than 20 years.

**Richard Healey** has become chief engineer at the M. T. Stevens & Sons plant in Franklin, N. H.

**M. W. Henry** has resigned as superintendent of Trabulski Textile Co., Denver, Pa.

## Duesberg-Bosson WOOLEN CARD and PERALTA MACHINE

(PATENTED)

Shown here: 3-cylinder set, with Peralta Machine. Also available in 2-cylinder and 4-cylinder sets.

All foreign matter entangled in the web as it passes from the doffer is pulverized by the two Peralta Rolls, thereby eliminating this foreign matter from the stock.

BUILT in two sizes, 78¾" and 72¾", this well-known woolen carding machine offers substantially greater production and noticeably improved quality because of inherent design features and operating advantages.

A new 2-cylinder carpet card now in operation in the Duesberg-Bosson Woolen Spinning Co., Jefferson, Mass., is causing great interest.

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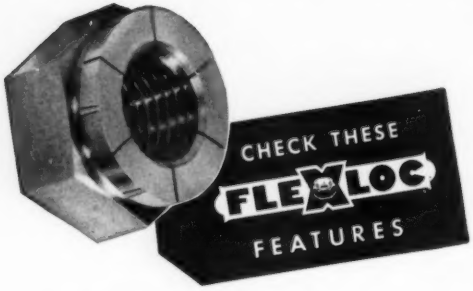


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# *News About* MEN (Continued)

**Julian T. Hightower** has been elected president and treasurer of Thomaston Mills, Thomaston, Ga., succeeding his brother, the late **Robert E. Hightower.** The new president is the third son of the company's founder, **R. E. Hightower, Sr.,** to hold the presidency. He was formerly executive vice president in charge of manufacturing.

**Jack T. Hold,** assistant purchasing agent of Erwin Mills, Inc., Durham, N. C., for the past 18 years, has been named purchasing agent of the company. He succeeds **C. F. Williams,** who has retired.

**W. Kelly Howze** has been promoted to superintendent from assistant superintendent at Indianapolis Bleaching Co., Indianapolis, Ind., succeeding the late **L. N. Hood.**

**Walter A. Jackson** has become superintendent at Wyandotte Worsted Co., Waterville, Me.

**William E. Jennings** is now general manager of Verney Corp., Manchester, N. H., succeeding **Frank Aiken,** recently resigned. Mr. Jennings was formerly at Westover Mills, Warwick, R. I.

**John D. Knaack,** who has been in the sales executive department of American Woolen Co., New York, for 35 years, has retired. He was statistical secretary and assistant to **Charles H. Silver,** vice president.

**Arthur H. Lamborn** has been elected a director of Forstmann Woolen Co., Passaic, N. J. Mr. Lamborn is a partner in the brokerage firm of De-Coppet & Doremus, New York.

**Charles Lyons,** head of finishing at Warrenton Woolen Co., Torrington, Conn., has resigned

**A. C. Macnab,** plant engineer at the Dominion Woolen & Worsted Ltd., plant at Hespler, Ont., left recently to accept a position with the Aluminum Co. of Canada Ltd., Montreal.

**Walter C. Merigold** has been elected president of Portage Hosiery Co., Portage, Wis., succeeding **Stanley M. Herlin; Alfred S. Reed** was named chairman of the board; and **Robert H. Gollmar,** secretary. Mr. Merigold was recently named president of Ripon Knitting Works, Ripon, Wis., of which Portage is an affiliate. Other appointments were **Carl O. Mattke,** manager, and **Harold Olson,** assistant treasurer.

**John W. Mettler, Jr.,** has been elected president of Interwoven Stocking Co., New Brunswick, N. J., succeeding his father, the late **John W. Mettler.** Mr. Mettler, Jr., had been executive vice president. **Harold W. Simmons,** formerly in charge of the firm's styling department for 15 years and **James A. Power,** former secretary, were elected vice presidents. **John P. Redwood, Jr.,** controller, will continue in that post and in addition has been named secretary-treasurer.

**James H. Millis** has been elected president of Adams-Millis Corp., High Point, N. C., succeeding his father, **J. E. Millis,** who remains chairman of the board.

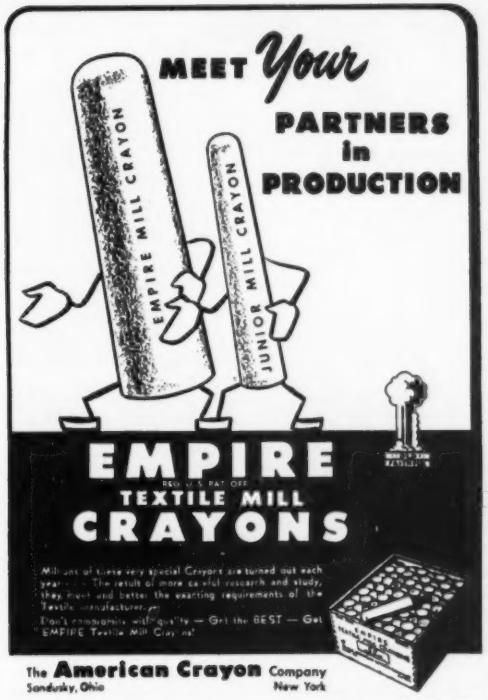
**Floyd C. Newton, Jr.,** formerly assistant treasurer, has been elected treasurer of Dundee Mills, Griffin, Ga. **E. C. Halsey,** secretary, will take on the duties of office manager. Together they will divide duties of the late **W. W. Norman,** vice president and treasurer.

**Clarence L. Nutting,** who recently resigned as research engineer for Arlington Mills of Lawrence, Mass., has accepted a similar position with Pacific Mills, Lawrence, Mass.

**Walter G. Regnery,** president and general manager of Joanna Cotton Mill Co., Joanna, S. C., has been appointed a collaborator of the Cotton Mechanical Processing Div., Southern Regional Research Laboratory, New Orleans, La., to advise on the planning and execution of its research program.

**H. L. Renger** has resigned as manager of Albermarle Weaving Co., Charlottesville, Va.

**Kurt Richter** has retired as vice president of S. Stroock & Co., Inc., Newburgh, N. Y., but will continue with them in a consulting capacity.



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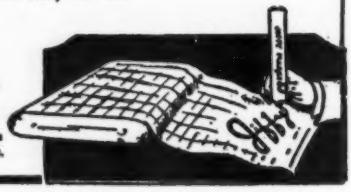

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# *News About* **MEN** (Continued)

**John H. Robinson** has become assistant to the vice president and resident manager of Wortendyke Mfg. Co., Waynesboro, Va. He was formerly with Charlottesville Woolen Mills, Charlottesville, Va.

**Herbert L. Shuttleworth, 2nd**, who has been executive vice president for 12 years, has been elected president of Mohawk Carpet Mills, Inc., Amsterdam, N. Y. He succeeds his uncle, **Howard L. Shuttleworth**, who was elected chairman.

**Charles H. Silver**, vice president of sales, was elected to the board of American Woolen Co., New York, N. Y. Also elected were **William Muir**, vice president of manufacturing, and **Frank S. Connett**, treasurer.

**Joe L. Smith**, Charlotte, N. C., has been elected vice president of Southern Webbing Mills, Inc., Greensboro, N. C.

**A. T. Spaulding** has retired as head of North Berwick Co., North Berwick, Me. He has been succeeded by **George W. Gouldry**, agent and superintendent.

**John Sullivan** has been named assistant superintendent of Tilton Mills of M. T. Stevens & Sons Co., Tilton, N. H.

**S. A. Summey**, superintendent of Alexander Mills, Forest City, N. C., will retire on Sept. 1. He will be succeeded by **M. G. Allen, Jr.**

**Thomas J. Talbot** is now superintendent of bleaching and dyeing at Dominion Fabrics Ltd., Dunnville, Ont. He was previously head dyer at the plant of Dominion Burlington Mills Ltd., Montreal, Que.

**C. Z. Taylor, Jr.**, manager of the Cleveland, Tenn., division of Duplan Corp., New York, has been transferred to Winston-Salem, N. C. to manage the corporation's Forsyth plant. He succeeds **Gerald W. Porter**, manager of this plant since it was constructed in 1947, who has resigned to enter another business.

**George Taylor**, formerly assistant superintendent of Riegel Textile Corp., Ware Shoals, S. C., has been made superintendent of Oconee Mills, Inc., plant in Westminster, S. C.

**J. C. WHITT has been appointed to the new post of assistant superintendent in charge of dyeing at Standard-Coosa-Thatcher, Chattanooga, Tenn., National Plant in Rossville, Ga.**

**George Thompson** has been appointed overseer of weaving at Dorr Woolen Co., Guild, N. H.

**John H. Thompson, Jr.**, has resigned as general manager of Winthrop Mills, Winthrop, Me., to assume a similar position with Thistle Fabrics, North Oxford, Mass.

**Ernest H. Vandrenil** has become superintendent of dyeing at National Worsted Mills, Jamestown, N. Y. He was previously with Brooklyn Yarn Dye Co., Brooklyn, N. Y.

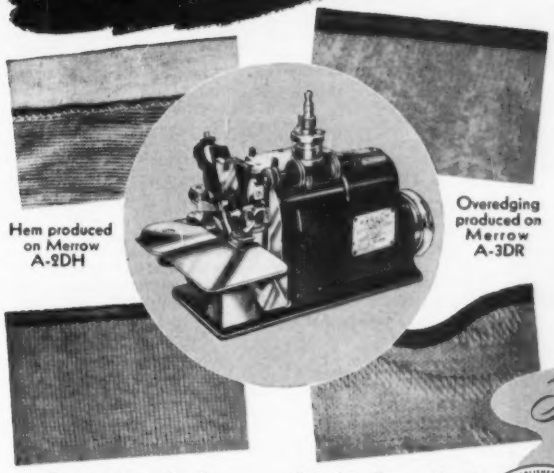
**Harold Wainwright** has become overseer of dyeing and bleaching at Chalmers Knitting Co., Amsterdam, N. Y.

**C. F. Williams**, purchasing agent for Erwin Mills, Durham, N. C., for 36 years, has retired. He has been succeeded by **Jack T. Holt**, assistant purchasing agent for the past 18 years.

**John Yost** has become assistant superintendent in charge of knitting at Utica Knitting Co., Utica, N. Y.

**Otto Zambona** has been appointed general superintendent of Kennebec Mills of American Woolen Co., Fairfield, Me. He was formerly superintendent of the company's Sawyer Mills, Dover, N. H.

# "MERROWING" . . . Overseaming, Overedging and Hemming



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# OBITUARY

**Robert W. Armstrong,** president and founder of Armstrong Knitting Mills, West Roxbury, Mass.

**Thomas Perry Bane,** general superintendent of Hatch Full-Fashioned Hosiery Co., Inc.; Plants 1 and 2 of Knit Products Corp., Inc.; and Outlook Manufacturing Co., Inc., Belmont, N. C.

**Harry L. Bass,** 67, cotton classifier for Textiles, Inc., Gastonia, N. C.

**Friend Brook,** 84, retired assistant superintendent of American Silk Spinning Co., Providence, R. I.

**Sidney R. Charlton,** 58, secretary of Catalina, Inc., Los Angeles, Calif.

**Floyd R. Clark,** 62, plant superintendent of Durham Hosiery Mills, Inc., Durham, N. C.

**Adam Clement,** 43, vice president of Barnhardt Elastic Corp., Charlotte, N. C., and of Southern Webbing Mills, Inc., Greensboro, N. C.

**Colin H. Dascombe,** 73, former co-owner of Watchung Silk Mills, No. Plainfield, N. J.

**Charles Doherty,** 77, executive of Henry Doherty Silk Co., Clifton, N. J., until the firm was dissolved in 1939.

**Louis P. Haight, 84,** founder of Muskegon Knitting Mills, Muskegon, Mich.

**Timothy A. Harrington,** 83, retired textile executive. He had been president and treasurer of V. & H. Weaving Co., Warren, R. I., and superintendent of Lippitt-Jackson Mills, West Warwick, R. I.

**Col. Charles F. H. Johnson,** 71, president of Botany Mills, Inc., Passaic, N. J.

**Walter G. Keebler,** 77, who retired in 1940 as vice president of Circle-Bar Knitting Co. Ltd., Kincardine, Ont., and general manager of its plant at Owen Sound, Ont.

**George Kinnear,** overseer for Brook Woolen Co. Ltd., Simcoe, Ont.

**C. Irving Lakey,** New England sales representative for Jacques Wolf & Co., Passaic, N. J.

**Leon L. McGrady,** 58, manager of the cellulose-products sales division of Eastman Kodak Co., Rochester, N. Y.

**Lawrence F. McKenna,** one of the founders and for the last 35 years president of Carlton Mills Co., Inc., Philadelphia, Pa.

**Charles J. Meager,** 56, retired superintendent of Cleveland Cloth Mills, Shelby, N. C.

**George N. Murray,** 57, vice president and treasurer of Lowell Bleachery South, Griffin, Ga.

**William Weaver Neal, Sr.,** 78, president and treasurer of Marion Hosiery Mills, Marion, N. C.

**Walker W. Norman,** vice president and treasurer of Dundee Mills, Inc., Griffin, Ga.

**Robert Calhoun Powell,** 61, assistant personnel manager of Riegel Textile Corp., Trion Div., Rome, Ga.

**Earl D. Power,** 56, chairman of the board of Lyon Metal Products, Inc., Aurora, Ill.

**William Theodore Rankin,** 53, vice president of Textiles, Inc., Gastonia, N. C.

**Guy W. Rutter,** executive of York Knitting Mills Ltd., Toronto. He had been with the company for 33 years.

**William Steinbuhler,** 77, former head of Horn Narrow Fabrics, Inc., Titusville, Pa.

**Wade P. Stowe,** 60, superintendent of Crescent Spinning Co., Inc., Belmont, N. C.

**Peter Van Vlaanderen,** 78, board chairman and former president of Van Vlaanderen Machine Co., Paterson, N. J.

**Joseph M. Wood,** 66, founder of J. M. Wood Mfg. Co., Waco, Texas.

**Pietro Zeppa,** 69, retired foreman at Cooper-Kenworthy Bleachery, Providence, R. I.

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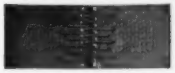
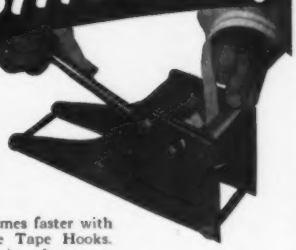
**SPINDLE TAPE LACING EQUIPMENT**





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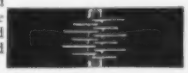

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Clipper UL BELT LACING EQUIPMENT

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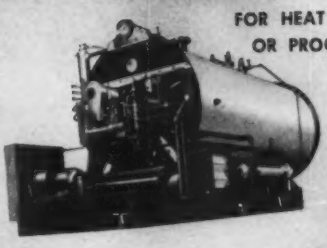

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90,000 Sq. Ft.—2 Sty. & Base Bldg.—3 St. Fronts—Excel. Daylite—Sprinklered —2 Freight Elevators—High Pressure Steam—Add. Ground—Prompt Poss.— With or without Fully Equipped Dye House.

**LANARD & AXILBUND**
*"LEASING SPECIALISTS"*
*MARKET ST. NATIONAL BANK BLDG.*
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EMPLOYMENT . . . EQUIPMENT . . . BUSINESS

## OPPORTUNITIES

***Whatever your need—***
**think "SEARCHLIGHT" FIRST**

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*CHICAGO: 520 N. Michigan Ave. (11)*
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### POSITIONS VACANT

WANTED: A Good Boss Finisher who is able to finish on all kinds of fabrics made in a Plush Mill. P-3651, Textile World.

### POSITIONS WANTED

COTTON SPINNING Technician, over 20 years experience in mill operations, high Caliber Production & Quality Record. Experience in plant erection & help training. American & European Machinery, Synthetic fibers. Desires supervising position in Latin American or Domestic mill. Speaks fluent Spanish, married. References on request. PW-3820, Textile World, 1111 Wilshire Blvd., Los Angeles.

LOOM FIXER — Narrow Fabrics, Ribbons, tapes, etc. Weaver & Twister. Thoroughly experienced. Best References. Age 50. Married. Least starting salary $75. PW-4359, Textile World.

RAYON-NYLON-Silk Throwster, desires position in supervisory capacity. Capable assuming full responsibility, training own help in all throwing depts., establishing piece work rates, throwing cost reports, etc., forward thinking, modern practice in all phases of throwing, married, references. PW-4270, Textile World.

TRICOT MILL Superintendent 20 years experience on modern high speed tricot machines in responsible positions, able to make samples, presently employed, available at once. Best references. PW-4170, Textile World.

## AVAILABLE
## PLANT MANAGER

22 years experience as superintendent and manager of worsted yarn mills. Successful executive, expert worsted spinner of various fibers from wool to latest synthetics. Exceptional European and American background, university degree in industrial management. Good organizer with the right personality to handle people, problems and production; should be equally valuable for other industries. Age 49, married. Must prove a real asset to organization and expects in return a substantial salary.

PW-4338, Textile World
330 W. 42 St., New York 36, N. Y.

## WORK WANTED

**Four 80-space Looms, up to ¾ inch ribbon.**

**WW-4282,** Textile World
330 W. 42 St., New York 36, N. Y.

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**AT**
**GREENSBORO, GEORGIA**

Modern one floor factory building suitable for knitting or sewing. Heavy duty concrete floor—built 1946, 10,000 sq. ft. 3-car covered loading dock on siding main line Georgia railroad. Small whse. modern attached office bldg. New plumbing and heating plant. Power installed clean ready for occupancy—located 85 miles southeast Atlanta — Population 3000 — plenty labor available—call, write or wire.

**ROCHELLE**
**FURNITURE MFG. CO.**
**ROCHELLE, ILLINOIS**

TEXTILE PLANT WANTED: We are now manufacturing over $20,000,000 in various lines and wish to expand by acquisition of assets or stock of one or more industrial companies. In our negotiations the seller's problems and wishes will receive full consideration. Present personnel will normally be retained.

*Address all replies*
**"Confidential" C. J. GALE, Sec.**
733 Broadway, N. Y. 7. N. Y. GA 7-1819

## MEN WANTED
## POSITIONS OPEN

We can place: **MANAGERS,** supts., overseers and fixers for sweater mills; supts. nar. fab. mills (2); manager upholstery fab. mill; woolen supts. and designers; supt. large woolen mill on stock dyed and piece dyed fabrics; supt. coarse cot. yarn mill; supt. plastic weav. plant; tricot managers, supts., overseers and fixers; supt. bleach., dye, and finish. plant; office managers, accountants and controllers for New Eng., Midwest and South; employment manager; asst. supt. woolen yarn mill; asst. supt. pressed felt mill, preferably graduate chemist; woolen, worsted, cotton and rayon designers; viscose designing engineer; designer knit. suits and dresses.

**OVERSEERS FOR FOLLOWING DEPTS.:** silk spin., coning and throw.; tricot warping; woolen weaving; cot. and rayon weaving, United States and foreign countries; worsted twisting; drawing pin drafters; hosiery dyeing; shredding and picking; sample dept. cotton piece goods in New York City; cot. wind. slash., weav. and cloth room (foreign); finishing knit. fabrics; dyeing nylon and silk sleeve dyeing. Foreman-fixer Whitin twisters; garment dyer or man to learn garment dyeing.

**SECOND HANDS FOR FOLLOWING DEPTS.:** cot. finishing and bleaching combined; woolen carding; worsted dressing; worsted carding, combing and scouring; woolen nap. and shearing; package cotton yarn dyeing; woolen spinning; woolen weaving.

**MASTER MECHANICS:** mechanical engineers; technicians for selling and demonstrating; rayon goods technician; laboratory technicians; tex. graduate to learn dyeing; salesman greige goods; salesmen to sell cotton piece goods and belting; fixers for Banner, Leighton, Supreme, Wildman, Crane, Tompkins and Scott & Williams machines; fixer Barber Colman spoolers and warpers; fixer Whitin wool spin. frames; sew. mach. fixers; fixers nar. fab. looms; worsted card fixer; cotton, woolen worsted, rayon and Axminster loom fixers.

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**CHARLES P. RAYMOND SERVICE, INC.**
**294 Washington St. Boston, Mass.**
**Specialists in Placing and in Supplying Textile Mill Executives**

## WANTED
## EXPERIENCED
## NOVELTY YARN TWISTER

**Man capable of making samples - analysis of natural and synthetic yarns. Desirable position in established organization for right man. Eastern seaboard.**

**Please Write, Giving Particulars.**

**P-4309,** Textile World
330 W. 42 St., New York 36, N. Y.

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*Rayon Plants & Textile Mills*
- Design
- Construction
- Management

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Offices Throughout the World

140—Draper XD looms, 64", 1946
280—Draper XD looms, 46", 1946
280—Draper Mod. D Looms, 44" Rebuilt
125—C&K looms 4x1, 40" dobby
18—C&K C4 looms, 76", 1946
48—C&K S6 looms, 52", 1947
4—Nottingham Lace Looms, 6 pt. 324" & 360" wide
1—Johnson Slasher—7 S.S. Drums 62x 30". Age 1942
1—Reiner H.S. Warper 56" w/Sipp Creel. Age 1947

1—Butterworth Pin Tenter Frame 80' long x 90" w/Proctor & Schwartz Housing. 40' long. Age 1948
1—Mercerizing Range 60' long x 60", w/S.S. Hunter Flexreel
1—Van Vlaanderen Hi Speed Tenter Frame, 120' long x 64", w/Nat'l Housing. 20 fans. Age 1950
2—Hinnekens Continuous Boil Off Ranges, 66" wide x 24' long.
1—Van Vlaanderen Hyd. Calender, 65" wide, 8 ton, pump & motor
1—Acid Ager, Stainless Steel, 16'x60"
8—Werner Stainless Steel Enclosed Dye Jiggs, 50" wide
10—Morrison Stainless Steel Dye Jiggs, 60" wide
3—Kiers, 2-4 ton capacity
7—Hinnekens Stainless Steel Dye Becks, 12' wide 1949

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COTTON YARN MILL, LONG DRAFT, ROVING & SPINNING —12,000 spdls.
MODERN RAYON WEAVING MILL
JACQUARD PLUSH MILL — 100 looms
SMALL DYE PLANT—14 JIGGS
LARGE DYEING, FINISHING & PRINTING PLANT

RICE, BARTON & FALES PRINT MACHINES 4-12 COLORS

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40 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

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4—160 Spindle Fales & Jenks novelty twisting machines, now in mill operation.

4" gauge, 3" ring, 6" traverse, tape drive with 4-7½ H.P. motors.

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KNITTERS—RIBBERS—LOOPERS—CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS
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6—Reiner 60 Gauge twin knitters, postwar type.
4—Kallo 54 Gauge 32 section FF knitters, new 1949.
24—F50 Coners—3-30 Traverse.
1—48" Prosperity Extractor stainless steel basket, rebuilt.
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WANTED
**To Expedite Production Machinery**

including Carding Machines, Spinners, Automatic Looms, Slashers, S/S Dyers, Extractors, Calenders, Clip & Pin Tenters, Dry Cans, Multi-color Presses.

Will consider set up plant now operating or shut down. When offering give full particulars.

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2—60" Tenter Frames, 1-40', 1-90', s.s. top opening clips.
1—P.&W. 50" Semi Decator, pump and motors, new blanket.
1—set (12) 50" x 23" copper Dry Cans, vertical.
1—60" finishing Calender, 2 paper, 1 steel roll, ball bearing.

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140 Market Street IPA Paterson, N. J.
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Will buy your surplus and obsolete dyes and chemicals for cash.
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**WANTED—SURPLUS**
Dyes — Chemicals — Pigments
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370—Draper, "XK," 44" B. C. Knotter, 1949, M.D.
C.&K. S-3, 56" RS, Dobby
100—Draper 50" XD, 1948
48—Draper 60" XD, 1948
Whitin Auto Quillers, 1948

*COMPLETE MILLS*

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**SAMPLE TRICOT MACHINE**
2 or 3 bar, preferably a 3 bar, about 30 inches wide.
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330 W. 42 St., New York 36, N. Y.

*WANTED*
**HIGH SPEED RIBBON LOOMS**
Sauer Type 248, or similar machine
State full details and price.
W-4405, Textile World
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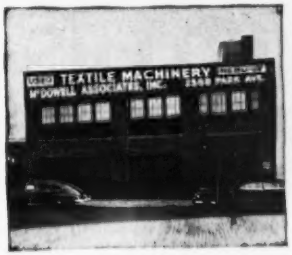


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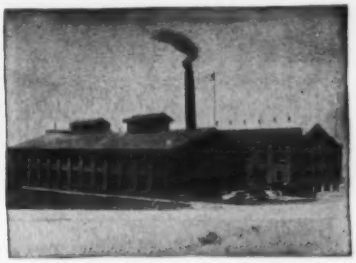
# FOR SALE



Hudson, New York Warehouse

## PARTIAL LIST - - - IMMEDIATE DELIVERY

### DYEING AND FINISHING

1 P. & W. BRUSH, 4 roll, 66", M.D.
1 C. & M. BRUSH, 4 roll, Vertical, 60"
1 Granger CALENDER, 3 roll, friction, 43"
1 C. & M. CHINCHILLA Machine, 81" Plates, M.D.
1 P. & W. SEMI-DECATUR, 72", Pump, Blanket, M.D.
1 Sargent DRYER, Raw Stock, 5 sect. fans, M.D.
1 P. & W. DOUBLER, 66", clock, M.D.
1 Obermaier S.S. PACKAGE DYEING UNIT, 300 lbs., Automatic Controls, M.D.
2 S.D. SKEIN DYEING UNITS, Monel Metal, 12-20 Arm, M.D.
1 Tolhurst EXTRACTOR, Monel Basket, 50" Dia., M.D.
1 Sargent SQUEEZE EXTRACTOR, 2 roll, 66", Pneumatic Pressure.
1 Hacking FOLDER, 78", Adj. 18"-42", M.D.
1 C. & M. FOLDER, 47" Jaw, 1 yd. Folds, M.D.
1 C. & M. FOLDER, Ceiling Type, 68".
2 Verduin JIGGS, B.B., S.S. Units, 60", M.D.
1 Pedlow JIGGS, B.B., S.S., 80", M.D.
1 C. & M. INSPECTING MACHINE, 64", Batcher Windup, M.D.
2 Quaker MIXING KETTLES, 36"-27", Pumps and Heating Coils.
3 Gessner D.A. NAPPERS, 18 roll, 60"-80"-80", M.D.
1 D. & F. NAPPER, D.A., 24 roll, 86", M.D.
1 D. & F. NAPPER, S.A., 14 roll, 72", M.D.
1 Woonsocket NAPPER, S.A., 22 roll, 80".
2 Davis & Furber NAPPERS, Knit Goods, 20 roll, 80", 90", M.D.
1 Morrison PALMER, TENTER, QUETCH UNIT, for 52" cloth, M.D.
2 Werner POWER PERCHES, Tilting Tables for Mending, Forward and Reverse, M.D.
2 Voelker Rot. St. PRESSES, dble. bed, 66", 86", M.D.
1 Toledo Dial SCALE, 125 lb., two ounce graduations.
1 SEWING MACHINE, Dinsmore Stand, with Merrow 60 3DB Head, M.D.
1 C. & M. SHEAR, Dble Blade, 60", M.D.
1 C. & M. SHEAR, Single Blade, M.D.
1 P. & W. SHEAR, B.B., 4 Blade, 60", M.D.
1 P. & W. SHEAR, Mod. "A", Dble. Blade 66½", M.D.
1 C. & M. SHEARING, BRUSHING & STEAMING RANGE, 66".
1 Johnson SLASHER, 5 Drum, 52", Sizing Unit, Kettle, Agitator, M.D.
1 SQUEEZE SET, 51", Rubber and Brass Rolls.
1 Van Vlaanderen SQUEEZE SET, two rolls, 66", M.D.

**LIQUIDATING**
**Howland Croft Sons & Co.**
**WORSTED MILL**
***Particulars on request***

3 TEASEL GIGS, 67", Sgle Cyl. Adj Contacts.
1 W&J Clip TENTER FRAME, 100' x 54" W.
1 Butterworth Clip TENTER FR 40' x 54".
4 C. & M. WINDERS, 50"-60", Dial Clocks.

### WOOLEN & WORSTED

6 Ruf BALLING MACHINES, 16 spindles each, 7" ga.
8 Sturtevant Waste End BLOWERS, Nozzles, Flexible Hose, ½ H.P. Motors.
2 S. & F. CARDS, 2 Cyl., Iron, 48" x 60".
1 D. & F. CARD, 3 Cyl., Iron, 48" x 60".
6 Schimmel CARDS, 3 Cyl., Iron, 53" x 48"; 65" x 48".
2 D. & F. CARDS, 3 Cyl., Iron, 72" x 60", with Feralias.
2 Whitin CONDENSERS, Return Air, Upright Type, Cyls. 72" x 37".
2 D. & F. CONDENSERS, Tape, 60", Single Rubb, 4 Bank.
4 S. L. CONDENSERS, Ceiling, 18" x 36", Self-Contained Fan.
1 T. S. SLIVER CUTTER, Single Knife, 12" Dia., with Feed and Delivery Tables.
1 Sargent DUSTER, 10' Cone Cylinder, M.D.
8 Whitin 48" Scotch Center Drawn Broad Band FEEDS, J1 Conveyors and Feed Table.
1 Whitin 60" Hopper Feeder, Model EL.
2 Hunter GARNETTS, 3 Cyl. Units, 30"x 60" with Hopper Feeders.
4 J. & B. MULES, 2½" ga., 360 spindles ea.
2 D. B. PERALTAS, as used on 60" Cards.
1 Parkhurst BURR PICKER, 24", with Blower.
1 Sargent Multiplex BURR PICKER, 36", with Blower.
1 P. & S. Wet Stock PICKER, 60"x30", B.B. Cyl., S. S. Pins.
5 Kitson RAG PICKERS, 18"x36", O. D. Cyls.
1 Dodge SHODDY PICKER, 20"x30", B.B. Cyl.
3 Whitin Wool SPINNING FRAMES, 180 spdls. ea., 4" ga., M. D.
5 Warp Compressing JACKSPOOLERS, 423/4", 40 end.
1 Collins Fancy TWISTER, Double Roll, 180 spdls., 4½" ga.
2 D. & F. WARP REELS, H.D., 82", Pin Type, Compressor, Beamer, etc.
1 S. L. CONE WINDER, 16 B.B. Spdls., M.D.
3 Foster CONE WINDERS, #12, 40-80-100 Spdls., M.D.
5 Foster CONE WINDERS, #35, 40 Spdls. Ea., Skein to Cone, M.D.
4 Foster CONE WINDERS, #101, 100 Spdls. Ea., M.D.

### LOOMS

30 Draper K, 47½" R.S., Dobbies, M.D.
48 Draper K, 49½", R.S., Dobbies, M.D.
140 Draper XD, 64" R.S., Dobbies, M.D.
54 Draper D, 62" R.S., Dobbies, M.D.
100 C. & K. TERRY TOWEL, 37", R.S., 4 Harn.
90 C. & K. S5, 64" R.S., Dobbies, M.D.
80 C. & K. S3, 54", R.S., Dobbies, M.D.
26 C. & K. S6, 56", R.S., Dobbies, M.D.
18 C. & K. C4, Convertible, 76" R.S., 4x1, 20 Harn., M.D.
72 C. & K. W1, 92" R.S., B. B. Auto. 4x1, 25 Harn., M.D.
36 C. & K. 82" R.S., 4x1 Auto., 25 Harn., M.D.
10 C. & K. W3, 92", Bijur Lubricators, Auto. 4x1, 25 Harn., M.D.
18 C. & K. 82" R.S., Auto. 4x1, 25 Harn., M.D.
56 C. & K. 82" R.S., 4x1, 2 Harn., M.D.

### COTTON

1 S. L. BALE BREAKER, 9' Extended Apron.
15 Whitin Waste CARDS, 49", Roller Type.
3 Whitin CARDS, 45", 27" Doffer, 12" Coiler.
4 Naismith COMBERS, 12½" Aspirators, 12" Coilers.
2 S. L. Vertical OPENERS, Adjustable Grids.
1 S. L. ROVING FRAME, 8" x 4", D2 Long Draft, 152 Spdls.
8 S. P. SLUBBERS, 10" x 5", Casa Blanca L. D., 80-84 Spdls.
24 Whitin SPINNING FRAMES, 240 Spdls. Ea., 3¼" Ga.
12 Whitin SPINNING FRAMES, 240 Spdls. Ea., 3¼" Ga., Casa Blanca L.D.
1 B. C. SPOOLER, 140 Spdls., with Warper and 432 End Creel, and Tailing Machine.
1 Reiner WARPER, 54½", with 150 End Magazine Creel.
1 Sipp WARPER, 83" x 8 Yard, 880 End Magazine Creel.
1 Cocker WARPER, 54¼", with 800 End Magazine Creel.

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WERNER MACHINE COMPANY—MANUFACTURERS OF DYEING AND FINISHING MACHINERY
D. R. KENYON & SON—DRYING AND TENTERING MACHINERY
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MANUFACTURERS OF HIGH SPEED KNITTING LOOMS

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# 50 ATWOOD MONARCH AND UTILITY TWISTERS

½ LB. PACKAGE—DOUBLE DECK—MOTORIZED—EXCELLENT CONDITION

# 18 ATWOOD TWISTERS

MODEL 110-1 LB.
200 SPINDLES
D. DECK—5½ GAUGE
MOTORIZED

**6 FOSTER SIZING MACHINES**

25 spindle, model 76, motorized with 3 H.P., 120/440 volt, 3 phase, 60 cycle motors.

**1 LYDON CAKE DRYER**

1949 model, 2 unit, complete with trucks, instruments and poles, like new condition.

100—XD—64" 1949 MODEL MOTORIZED
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140—S-3—58" MOTORIZED

2—12 FLY FLETCHER
1— 8 FLY FLETCHER
6— 4 FLY ATWOOD

# LOOMS
# REELERS

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1—60 Spindle Universal #44 Roto-Coner
2—Chelmsford Balling Machines
1—Landfear Spool Printer
1—40 Spindle Foster #12, Skein to Tube
5—Ruf Balling Machines
1—40 Spindle Atwood 5B, Vertical Motor

Universal #50's, #90's rebuilt to specification

**GAINES TEXTILE MACHINERY CO. INC.**

141-43 West 17th St. New York 11, New York



# IMMEDIATE DELIVERY

1—64" x 40' Tenter Frame, S. S. Clips, M. D.
1—V. V. Palmer Quetch Unit 64" with Compensator and Blanket, M. D.
1—Set 10 Stainless Steel Dry Cans 72"
1—48" Hercules Extractor, Monel Basket, 4 Speed late type, like new
1—76" Beamer, with enclosed B. B. Reeves, M. D. reverse switch
1—50" Single Color Print Machine $750.00
1—54" K. & G. Embosser, M. D.
1—25 Gal. Mixer Copper Jacketed
1—Set of 6 Copper Dry Cans, 50" x 30" Dia.
2—Dinsmore Bicycle Sewing Machines, $50.00 each
1—48" Hermas Inspection & Meas. Machine $209.00, M. D.
1—44" P. & W. Inspection & Meas. Machine, M. D. $150.00
1—50" Padder, 2-Roll $400.00
1—36" Extractor, Copper Basket, M. D.

FOR LEASE: 35,000 sq. ft. one floor, good drainage, H. P. Boilers, free water, excellent location.

**A & M BLANK CO., INC.**

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**6—S.A.G. FRENCH COMBS**

Year 1948
Wide Model
30½" x 12" can
22" x 23" apron

Item L-WQ

**WHITIN QUILLER—MODEL J**

304 Spindle
3½" Gauge—10½" Traverse

Item G-ALB

**8" AUTOMATIC LOOM BOBBINS**

for W-3 Worsted Looms
4200 New Ones Available
20,000 Used Ones Available
very good condition

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**25,000 USED WOOD BOBBINS**

8" x 1½"
for 102 Foster Winders

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Phone—Chester 3-4167

# CRESCENT CORPORATION offers immediately the following excellent modern finishing equipment at MT. HOPE FINISHING CO., No. Dighton, Mass.

*1—58" MORRISON DUPLEX CONTROLLED COMPRESSIVE SHRINKING MACHINE (product is SANFORIZED). Unit consists of: Control roll machine, skyer with Cole spray, clip expander tenter. Main unit cylinders, 60" face x 84" dia. and 40" face x 48" dia. Auxiliary unit cylinder, 58½" face x 60" dia. and overhead cylinder, 58" face x 24" dia. Unit is fully equipped.*

*1—70" MORRISON MERCERIZING RANGE —1949, consisting of:*
*1—Birch Scutcher.*
*2—Morrison 15-ton Pads, 3 roll.*
*1—Morrison 60' 70" heavy duty tenter.*
*3—Morrison Williams Units S/S.*
*1—Morrison 10-ton 2-roll Pad.*
*1—Flowrator.*
*1—Scott Caustic System.*
*1—Swing Folder.*
*Range completely equipped with motors and controls, 230 V.D.C.*

*1—50" MORRISON MERCERIZING RANGE —1947, consisting of:*
*2—72" 2-roll Rope Washer.*
*1—Scutcher.*
*1—Williams Unit 5-ton.*
*2—3-roll 15-ton micro-set Morrison Pads.*
*1—Morrison 60' 50" heavy duty tenter.*
*1—Morrison 15-ton 2-roll Pad.*
*1—Scott Caustic System.*
*1—Williams Unit 5-ton.*
*1—Swing Folder.*
*Range completely equipped with motors and controls 230 V.D.C.*

*1—72" CONTINUOUS DYE RANGE, as follows:*
*2—72" M.H.F. 3-roll pads.*
*1—72" 10' steam ager.*
*5—2 compartment open washers, S/S.*
*17—72" S/S Dry Cans.*
*23—72" Copper Dry Cans.*
*1—Swing Folder.*
*Range is equipped with individual unit motors and controls.*

*1—50" CONTINUOUS DYE RANGE, as follows:*
*2—50" M.H.F. 3-roll pads.*
*1—50" 2-roll pad, high frame.*
*5—Morrison 50" Williams Units, individually motor-driven.*
*54—50" Copper Dry Cans, 1 swing folder.*
*Range is motor driven by 230 V.D.C. motors.*

*1—50" DYE RANGE, (napthol) with 2 pads, open ager, 5 single compartment washers, and swing folder, with D.C. motor drive.*

*1—72" DYE RANGE, (aniline blacks), with 2 3-roll pads, set of 20 copper dry cans, 1 compensator, 1 Textile Ager—cast iron, 1 72" 2-roll pad, and swing folder. Motors and controls, 230 volt D.C.*

*2—ANDREWS & GOODRICH STEAM-DRYING and GAS - CURING RANGES, 1—66", 1—54".*
*1—66" ANDREWS & GOODRICH ROLL DRYER—1948.*
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*2—S/S 2 - COMPARTMENT OPEN WASHERS, top rolls rubber-bottom S/S.*
*52—72" COPPER DRY CANS, compensating rolls, with individual-unit motors and controls.*
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*2—72" COPPER DRY CAN SETS, vertical, approx. 54 cans, with Johnson joints, traps, compensators.*
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*1—70" SINGEING RANGE—1950, consisting of:*
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*2—70" SINGERS, with Kemp water-cooled burners, 72" M.H.F. 2-roll Pads, plaiters, compensators, guiders, motors and controls. 1—1945, 1—1946.*
*2—KEMP CARBURETORS, #8 with motors and controls. 1—1945, 1—1946.*
*1—60" VAN VLAANDEREN 3-ROLL SILK CALENDER, hand lever set, extra heavy frame, 10" steel steam-heated center roll, 18" dia x 58" face composition top roll, 17" dia. x 58" face composition bottom roll.*
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*3—60" WINDLE BOARDING MACHINES with YARDAGE COUNTERS.*
*3—M.H.F. TUBERS, 60" width.*
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## Synthetics Symposium

(Continued from page 147)

*A. R. Robbins*, Stein-Hall: Dr. Quig, would you estimate what the percentage of the estimated output of Dacron and nylon will be in woven apparel fabrics, and what percent will be in blends?

*Dr. Quig:* I can't do it. Will any of my colleagues try that one? We would like to know the same thing. (Laughter)

*Mr. Setterstrom:* Next qeustion?

*Sam McFarlane*, Celanese Corp.: I would like to ask Dr. Von Bergen, in view of the hydrophilic nature of wool, how do you account for this non-wicking you spoke of?

*Dr. Von Bergen:* In the newer synthetics, the water is picked up and stays in its liquid form, whereas in the wool it remains as moisture. That is the explanation we have for non-wicking of wool fabrics.

*Mr. Setterstrom:* Next question?

*Charles Fowler*, U. S. Rubber Co.: Have the tests to determine the quick-drying properties of the newer fibers been done only on yarn, or have they been done on fabrics? And if they have to be done on fabrics, what is the effect on fabric construction?

*Dr. Quig:* The tests have been run on fabrics, and fabric construction is a factor in the time of drying. The more open the fabric, the quicker the drying.

*Mr. Setterstrom:* Next question?

*R. I. Reis*, Du Pont Co. Does the X-2 finish make possible a 100% rayon washable shirt?

*Mr. Fitzgerald:* You know we could talk at some length about what is washability. You see, we grew up in a cotton plant and when we say washability, we mean it just washes. We don't mean in luke-warm water or suds, or being handled just so very carefully. We mean boiling it, if we want —using very strong soap solutions—using chlorox if needed—I will give you examples of what we have been doing. We have made some all-spun-viscose, vat-yarn-dyed, plain-weave shirts. We have sent them to the commercial laundry and had them washed with white sheets, thinking that was about as vigorous a washing as they could meet. Twenty times over, as far as we could see, there was no appreciable deterioration. We have taken those same fabrics and have washed them upwards of 40 times in a modern home-washing machine, and it was still a good fabric.

*Mr. Setterstrom:* I would like to ask Mr. Kilborne what is the effect of ultra-violet exposure on the tensile properties of silk?

*Mr. Kilborne:* Ultra-violet exposure

(Continued on page 306)

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60—44½" Draper Model E 16 h. Looms, mtr. dr.
48—46" Draper Mod. D 16 h. Looms, Hunt spreaders, mtr. dr.
1—100 sp. Abbott 1947 Automatic Quiller
72 spindles of Whitin Schweiter Auto. Quillers. Type MS
1—66" Johnson 3-cylinder Slasher
1—66" Johnson 5-cylinder Slasher
1—Terrell 1949 Type L Bobbin Stripper with compressor
1—Barber-Colman 1949 Type LS Warp Tying-in Machine
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(*Continued from page 304*)

affects silk pretty much in relation to the fabric which you will have originally created if you wanted to have a fabric that was washable. In fact, you have to sacrifice sun fastness in the coloring over a prolonged period of intense exposure to sunlight. Silk will degrade.

*Mr. Setterstrom:* Mr. Jefferis of *Daily News Record.*

*Mr. Jefferis:* Where should the chemical industry begin in any attempt to help the silk fiber? Where should that research begin?

*Mr. Kilborne:* I think the area that would be the most logical starting point would be in getting better dyestuffs and better finishes of a more permanent nature so that silk could be a truly washable fabric. We have had silk, as I indicated in my talk, for 4,000 years, and I think that actually there has been very little that chemists have done on it as an industry. Starting with the point of washability, I think there is an area that could grow up and could develop into a sizable business. I think also there is an angle you might keep in mind that was borne out in today's and yesterday's talk, and that is that the chemical industry has been working on the new fibers which seem to involve an initial capital outlay somewhere around $70,000,000. I don't think that that outlay or anything like it will be necessary to go to work on silk to make it a very interesting fiber.

*Mr. Setterstrom:* Here's one for Mr. Fitzgerald and then Mr. Goldberg. If it is true that 15% viscose has merit to blend with cotton, why isn't all cotton blended with viscose?

*Mr. Fitzgerald:* As Mr. Bouvet said yesterday, we don't always get precisely the characteristics from blending fibers that you might expect normally in blending, and please understand that in this the end result will be affected by such things as staple length, and so forth. Normally the addition of 15% viscose staple to a cotton yarn doesn't appreciably change the breaking strength of that yarn in a dry or wet state. As you begin to go above that point, you begin to come down in the breaking strength, and as you continue to add more and more viscose until you get all-viscose yarn, then that breaking stage will go back up again. Certainly, with viscose at a lower cost than cotton, viscose can very well, in those low percents, be added to all cotton fabrics, almost without exception. We have processed a half a hundred different fabrics that are blends of cotton and viscose, and we fully expect that they will be commercially produced in very substantial amounts.

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24—C. & K. W2, 82" 4x1 Looms
12—C. & K. W-1 78", 4x1 Looms
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
36—C. & K. 82" (4x4) Box Looms
2—L. & G. Chenile Cutters

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**UNIVERSAL #30 & #90 WINDERS REBUILT TO ORDER**

1—Universal 60 G.F., 96 sp. Cone Winder
1—Foster, Mod. 101, 100 sp. Cone Winder
4—Foster Mod. 12, Skein to Cone or Tube Winders
2—J. & B. Jackwinders, 80 sp. & 120 sp.
10—Lindsay Hyde Adjustable Skein Reels
1—Whitin Quiller 3½" Gauge (long chain)
1—P.S. 122 sp. Twister 4" Ring, band dr.
1—Lazenby 15 sp. Cop Winder
1—Sargent 10 sp. Balling Machine, 1948

**FINISHING**

1—Gessner Mod. 20 Press, 1950
1—Hunter 26B Fulling Mill
1—Hunter Squeeze Set, 96", hydraulic
2—Birch Bros. & Tack. Mach. (92")
1—Woonsocket 84" D. A. Napper, 36 rolls
1—P. & W. 66" 4 cyl. Brush & Sander
2—Texasis Gig's, double cylinder (90")
1—Yorkshire Crab 72"—3 bowl
1—Butterworth 90", 3 bowl Washer
1—S/S Lined 60" Wetting-out Tank with squeeze rolls (Pneumatic Pressure)
2—P. & W. 66" Mod. A Double Shears
2—Voelker 65½" D. B. Presses
1—Set Dry Cans (4) 27" Copper
6—Dry Cans Copper, 70" x 36"
1—Cloth Measuring & Rolling Machine 80"
2—P. & W. 66" Cloth Doub. & Meas. Mach.
1—P. & S. 2 Truck Skein Dryer

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**1837 E. Ruan St. Philadelphia 24, Pa.**
*Phones:* Jefferson 5-4771-4772
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H. W. Yarn Conditioner Type R. I. (Electric) with Skein Truck, complete
3—Inspecting Mach. 70", 66" & 60"
60-46" Cloth Draper Mod. E Looms, Mtrs.
36-50" Cloth C.&K. B-5 1942 Looms
56-50" Cloth S-6 1948 C.&K. Looms
90-84" Cloth Draper XD 1949 Looms
1-5 Can Johnson 52" Slasher complete
1—Terrell Bobbin Stripper & Compressor
1—101" DT Warper Sipp East. with 504 end Pin Creel, lge. pkge.
1—Hill 4 Spool Edge Warper
1—84" High Speed Warper with 1632 end Pin Creel
24—Spdls. 1948 Whitin Schweiter Winders
3—100 Spdl. Sipp East. DH Winders

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**PROCESSING MACHINERY CO., Inc.**
*Specializing in Export & Domestic Production Machinery*
303 CLIFTON AVE. Telephone: PRescott 9-8850 CLIFTON, N.J.

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1—Butterworth 72" wide 5 bowl Chasing and Plain Rolling Calender.
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1—Cidega 40" Flat Knitter, motor driven
3—Barber-Colman Knot Tyers, Model K and LS

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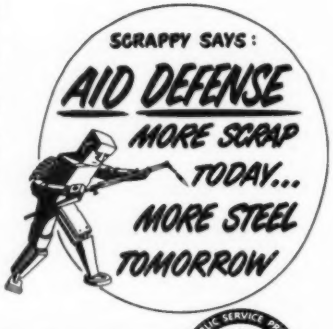
Get in touch with your local scrap dealer and write for the free booklet, "Top Management: Your Program for Emergency Scrap Recovery" to Advertising Council, 25 W. 45th St., New York 19, N. Y.

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# *Index* to ADVERTISERS Keyed by PRODUCT

**A HELP TO YOU.** The reader will find that this unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a surprisingly complete source of informaton on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

**HOW TO USE.** First, look in the table below and find the letter that designates the class of supply or service that you currently need. Then consult in the index the page numbers that are followed by that letter.

A. Air Conditioning, Air Cleaning
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
C. Chemicals and Dyestuffs
D. Cleaning Equipment
E. Dyeing, Finishing, and Cloth-Room Equipment and Supplies
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials for Machinery, Equipment.
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production and Winding Equipment and Supplies

An * indicates additional data in the 1951-52 Pre-Filed Textile Catalog. This index is published as a convenience to the reader. Great care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.


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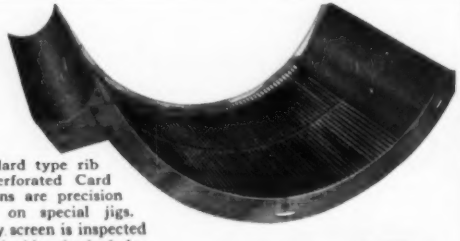

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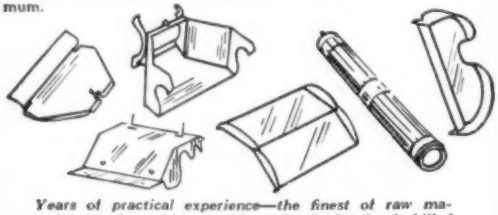

*Years of practical experience—the finest of raw materials—and precision machinery in the hands of skilled workmen go into every product.*

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**GASTONIA, NORTH CAROLINA**

**A SHEET METAL WORKS SERVING TEXTILE MILLS**



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|---|---|---|
| *Bullard Clark Co., E. H. Jacobs Northern Div. | 161 | R |
| *Butterworth & Sons Co., H. W. | 142 | E |
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| *Crane Co. | 92 | H |
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| *Crompton & Knowles Loom Wks. | 42 | R |
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| *Emery Industries, Inc. | 69 | C |
| Emmons Loom Harness Company | 75 | R |
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| Gardner-Denver Co. | 62 | H |
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| *Laurel Soap & Mfg. Co. | 242 | C |
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| Linde Air Products Co., a Div. of Union Carbide & Carbon Corp. | 206 | L RT |
| *Link-Belt Co. | 7, 43 | Q |
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| *Meadows Mfg. Co. | 148 | Q |
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| *Monsanto Chemical Co., Phosphate Div. | 195 | C |
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| Morris Fur Co. | 292 | R |
| *Mt. Hope Machy. Co. | 51 | E |
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| *National Drying Machy. Co. | 312 | E |
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| Norris Bros. | 252 | R |
| Oakite Products, Inc. | 287 | C |
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| *Paddock Co., J. C. | 222 | P |
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| *Perfecting Service Co. | 216 | H |
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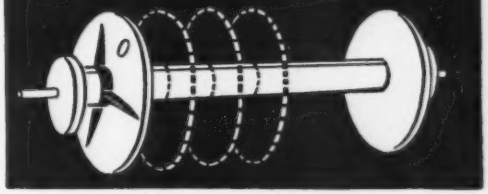
| *Standard Fabricators Inc. | 233 | E |
| *Standard Pressed Steel Co. | 292 | O |



For different width goods on the same loom beams

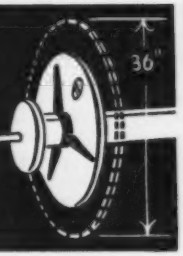


# ALLEN
## Adjustable Loom Beam Heads

Your orders call for different width warps on the same width looms. Allen Adjustable Heads solve the problem.

***These Heads are made to the famous ALLEN Standards, based on 35 years of know-how***

New ALLEN GIANT-SIZE ADJUSTABLE HEADS




Have you considered the use of larger heads for your warps — to save drawing-in and change-over costs?

**THESE HEADS COULD MEAN THE DIFFERENCE BETWEEN PROFIT AND LOSS IN THE WEAVE ROOM**

**ALLEN BEAM COMPANY**
High Speed Warper Beams
Warper Beam Heads
Loom Beams
Adjustable Loom Beam Heads

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General Offices — 151 River Road
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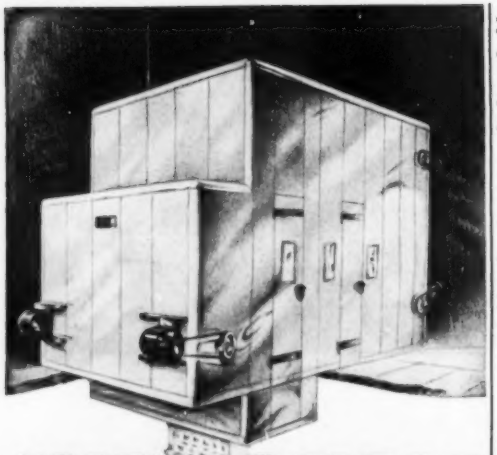
and all Principal Countries of the World.

**"GOOD WARPS ARE MADE ON GOOD BEAMS"**

For more information, write direct or use Reader Service post card. 311



# "NATIONAL"
# PRINT GOODS DRYER
## MODEL PTD-4

New standards for efficiency, speed and versatility are established in this latest model PRINT GOODS DRYER by "NATIONAL".

PRE-DRYER SECTION. A specially designed tower structure which operates to assure three significant results—(1) a positive color set as the result of exceptionally quick drying to the required degree; (2) reduction to absolute minimum the space necessary for this operation; and (3) important savings in the time and costs involved in finish drying. Increased drying capacity in this section may be obtained by use of "Drop Leg" extending through floor to room below.

FINISH-DRYER SECTION. Here the cloth passes over a series of rollers in constant over-all contact with the circulated air. Rollers are so arranged that entire passage of the cloth is accomplished without contact between printed surface and rollers.

VARIOUS ARRANGEMENTS. Because of its unique self-contained unit construction, the "NATIONAL" Print Goods Dryer may be installed in several ways to meet particular production requirements or existing plant conditions.

HIGH-SPEED FOLDER. If desired, the Dryer can be equipped at the back with a special High Speed Folder which, operating in conjunction with Draw Rolls, pleats the dried cloth into folds in trucks or on skids.

*Send for New Illustrated Folder*

THE NATIONAL DRYING MACHINERY CO.
LEHIGH AVENUE and HANCOCK STREET
PHILADELPHIA 33, PENNA.

*New England Agent:* INGALLS ENGINEERING CO., Providence, R. I.
*Southern Agent:* F. W. WARRINGTON, Charlotte, N. C.

DRYING AND CONDITIONING MACHINERY FOR TEXTILES, CHEMICALS, CERAMICS, ETC.



| | | | |
|---|---|---|---|
| Star Woolen Co. | 25 | G | N |
| *Steel Heddle Mfg. Co. | 200, 201 | | R |
| *Stephens-Adamson Mfg. Co. | 87 | | Q |
| Sterling Electric Motors | 93 | F | |
| *Sterling Ring Traveler Co. | 254 | | T |
| Sun Oil Co. | 140 | C | |
| Superior Combustion Industries, Inc. | 297 | | Q |
| *Supreme Knitting Mach. Co., Inc. | 193 | L | |
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| *Synthane Corp. | 177 | | T |
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| Tennessee Corp. | 281 | C | |
| *Terrell Machine Co., Inc. | 243 | D | |
| Textile Banking Co. | 203 | | N |
| Textile Hall Corp. | 235 | | N |
| *Textile Machine Wks. | 98, 159 | L | |
| Textile Process Engineers, Inc. | 250 | | N |
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| *Toledo Pipe Threading Mach. Co. | 228 | H | |
| *Tomkins Bros. Co. | 242 | L | |
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| Torrington Co., The (Bearings) | 54 | | Q |
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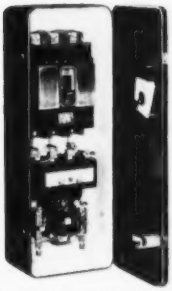
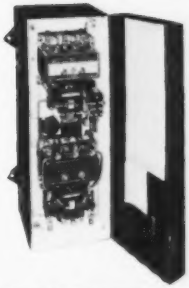


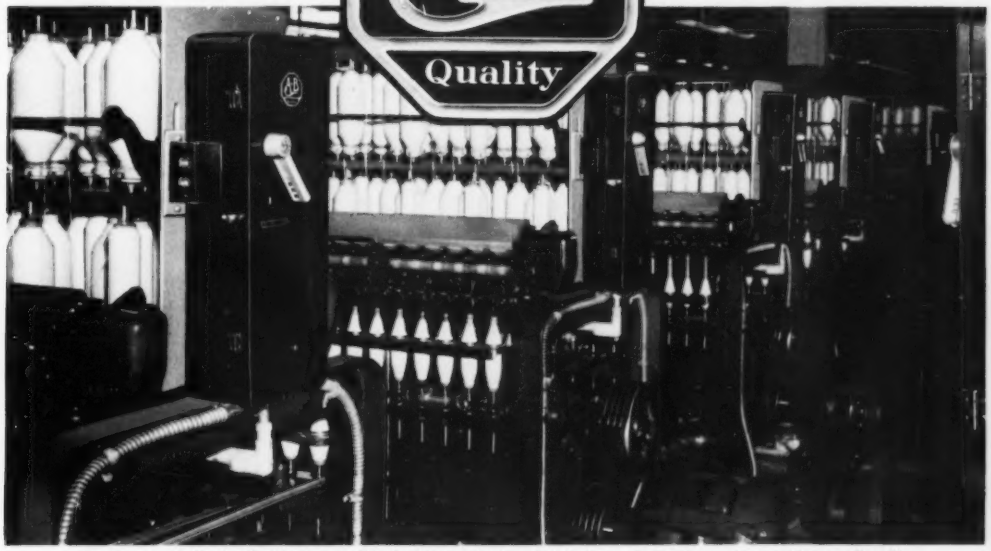
**Bulletin 713 Combination Starter**
Circuit Breaker Type Combination Starter. The magnetic trip circuit breaker opens instantly when the current equals or exceeds the instantaneous trip rating of the breaker.

**Bulletin 800**
**Standard Duty Push Button**
Bulletin 800 Standard Duty Control Starters are available with 1, 2, or 3 buttons. Single circuit momentary contact type. Double break, silver alloy contacts.



**Bulletin 740 Automatic Resistance Starter** Just touch the Start button . . . the machine comes up to full speed with velvet smoothness . . . there is no breakage of yarns or threads.

A-B Quality



Double row of 40 Allen-Bradley Bulletin 713 Combination Starters, installed on spinning frames, in a southern textile mill.

# SPINNING FRAMES

equipped with

**ALLEN-BRADLEY TROUBLE FREE COMBINATION STARTERS**

● Compactness . . . that is a requirement of modern textile mill motor control. You can do away with the old-style disconnect switches and starters hanging all over your textile machines. Simplify your wiring jobs . . . make neater installations . . . with Allen-Bradley combination starters that have all units—disconnect switch, fuses, and motor starter; or circuit breaker and starter—in a single cabinet. There is greater safety, too. The interlocked disconnect lever must be in OFF position to open cabinet.

Allen-Bradley has a broad line of motor controls to meet the starting requirements of your textile machines.

A-B Quality

# ALLEN-BRADLEY

QUALITY

**MOTOR CONTROLS FOR TEXTILE MILLS**

Allen-Bradley Co.
120 W. Greenfield Ave.
Milwaukee 4, Wis.

# *Now*

**is the time to get**

**LOOMS**

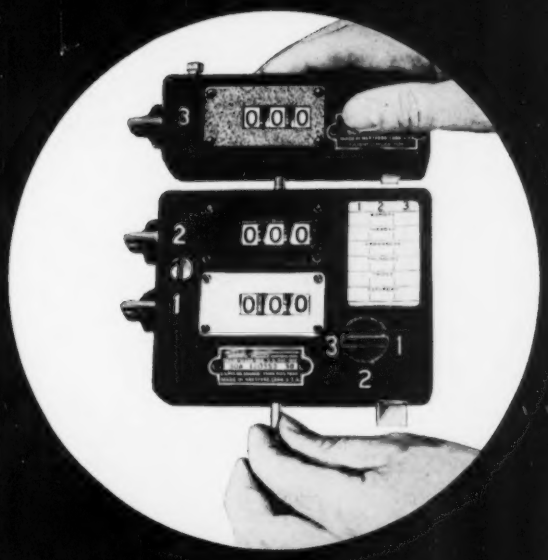
**equipped for**

**DRASTIC**

**PRODUCTION**

**DEMANDS**

**...with up-to-date**



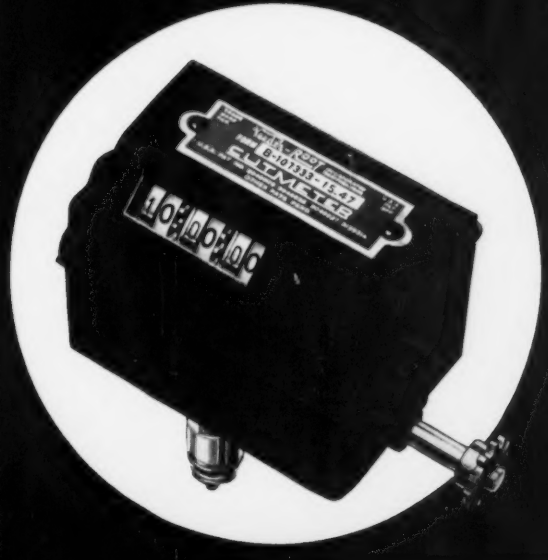
2-3 CONVERTIBLE PICK COUNTERS

# VEEDER-ROOT COUNTERS

*COUNTROL* is more vital now than ever before. How to keep costs down? How to keep production rolling at top levels? How to utilize workers' efforts with utmost efficiency . . . and pay for them most fairly?

Questions like these can be answered with the help of accurate, up-to-the-minute figures provided by Veeder-Root Counters like the 2-3 Pick Counters and Cut Meters shown . . . quick and easy to read and reset. Let an experienced V-R engineer look over your operations from opening room to weave room . . . and see what savings he can add for you with Veeder-Root *Countrol*.

LOOM CUT METERS



## VEEDER-ROOT Inc.

*"Counting House of the Textile Industry"*

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